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As We See It

John Atkinson



"There, *that's* where you should put the microphone, 5" from the end of my bow."

Holding his bow up at an angle, violinist Pinchas Zukerman was helping me set up my mikes to record the final concert from the 1998 Santa Fe Chamber Music Festival, where he was to lead an ensemble in a performance of the Mozart G-Minor Piano Quartet. (The CD is scheduled for release in spring 1999.) Faced with an uncooperative acoustic at this year's event in the form of air-conditioning noise, I was forced to abandon my usual purist, distant technique in favor of close-miking, multitracking, and artificial reverberation. (As Wes Phillips consoled me when I told him of this decision, "At least selling out on everything you believe in will give you something to write about!")

Zukerman has been recording for 30 years, so I asked him if there was a mike position he'd recommend. He has found that the best position for a microphone to capture the sound of his violin is always the same: "If it works, why change it?"

"If it works, why change it?" is also the philosophy we apply to *Stereophile's* humongous "Recommended Components" listing, the latest version of which appears in this issue. However, I constantly receive letters and e-mails that are critical of "Recommended Components" or suggest improvements. The most common question: Why is the list split into classes A through D? With memories of school-work grades vivid in the correspondents' memories, they point out that a component rated in Class D must surely have received a failing grade.

Well, that isn't what it means. The "Recommended Components" class system and definitions were devised more than 30 years ago by *Stereophile* founder J. Gordon Holt. Other than the addition of a Class E for very inexpensive components that can be used as the basis of an affordable system that still makes music, we have left well enough alone.

Gordon's original list, of course, was the work of one man, and was a fraction of the length of "Recommended Components" today. The second most common question is: Why are so many components included? Surely they can't *all* be worth buying?

Well, yes, they *are* all recommended. Each component listed is there because of the advocacy of one or more of the magazine's 20-strong reviewing team. The only

way to reduce the number of components is to reduce our reviewing staff, and I don't want to do that. Each writer has a unique combination of tastes and skills to bring to bear on behalf of *Stereophile*. It strikes me as arbitrary and unfair to list, say, just the "Editor's Choice," as some other magazines do. In a sense, *Stereophile's* "Recommended Components" is the editor's choice, in that Wes Phillips and I commission the reviews and recommendations from the writers, and I have the final say

"If it works, why change it?" is the philosophy we apply to our "Recommended Components" listing.

on what class each component belongs in and whether or not it stays in the list.

I do drop products from "Recommended Components" that are no longer distributed in the US or that have been significantly redesigned but not yet reauditioned. I also drop components from the list when they have not been reviewed in more than three years, and no one on the staff has listened to them in that time. The pace of progress is sufficiently rapid in some areas of the world of high-end audio that three years is a long time. Inevitably, this results in the disappearance of worthy but long-lived products. We do try to reaudition the classics and components that have been redesigned, but it is inevitably a somewhat patchwork process.

What upsets most correspondents is when their favorite component is not included. Sometimes this is because a *Stereophile* reviewer was not impressed by its sound when he or she did the review. But most often it is just because we have not reviewed the component in question. And if we haven't reviewed it, we have no opinion either way.

Readers are also upset when products that were once in a high class have dropped down a rating. Progress in product design inevitably leads to a raising of expectations. The introduction of products that either push forward the subjective frontiers at the cost-no-object front or redefine what is expected at a particular price level means that it is unusual for a

Class A recommendation from five years ago to still be listed in Class A.

But whether components don't make an appearance, are deleted, or have just slipped down a class in the "Recommended Components" ladder, none of these invalidate a buying decision you have made. What counts is that you continue to enjoy your music with the system you have assembled according to your tastes. That enjoyment should not be spoiled by our opinions, or by those of other audiophiles.

Welcome, Steve

As our editorial assistant, Tricia Ware Colville, has left *Stereophile* to edit a real-estate magazine, I'd like to welcome our new associate editor and classified advertising manager, Steven Stoner, to the staff. Steve, who is a red-hot drummer in his spare time and who also paints, was for many years the accounts receivables manager at the old *Stereophile*, Inc.

Change your address books

Stereophile has been ensconced at its Delgado Street complex since the spring of 1987. But as readers and manufacturers who have visited us recently know, we have been bursting at the seams for at least the last three of those years. So the magazine's new owner, Petersen Publishing Company, L.L.C., has moved *Stereophile*, *Stereophile Guide to Home Theater*, and the HI-FI Show to a palatial new office suite. It will be considerably easier for staff to get the magazine together each month, but, most important, we will now have a dedicated listening room that does not also have to serve triple duty as the measurement lab and Wes Phillips' office.

Our new address is 810 W. San Mateo Road, Santa Fe, NM 87505. Our Post Office box remains the same—P.O. Box 5572, Santa Fe, NM 87502—as do our phone numbers, including our editorial telephone (505-982-1411) and fax (505-983-6327).

In related news, we have a new subscription fulfillment company, along with new subscription rates. The new rates are 12 issues for \$29.94 (US) in the US, \$42.94 (US) in Canada, \$44.94 (US) for foreign surface delivery or \$120 (US) for foreign air delivery. To subscribe, remit all funds to *Stereophile*, P.O. Box 53117, Boulder, CO 80322-3117, or call (800) 666-3746 toll-free to charge your subscription to your credit card. Outside the US, call (303) 678-0354.

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Audio Design

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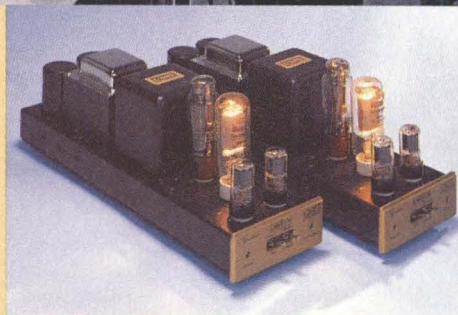
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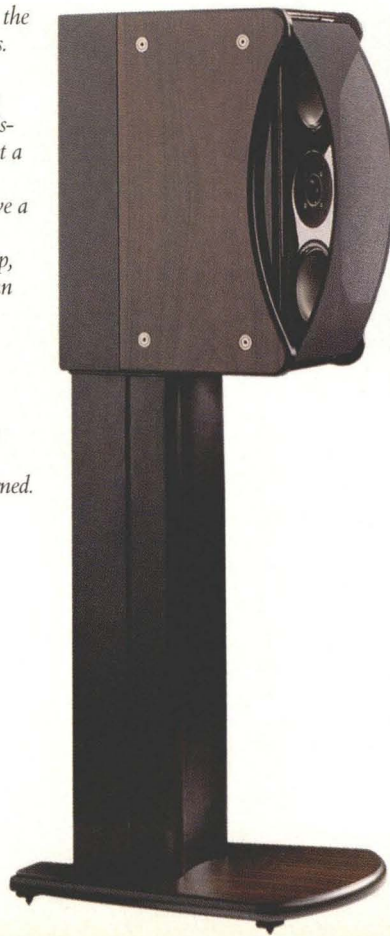
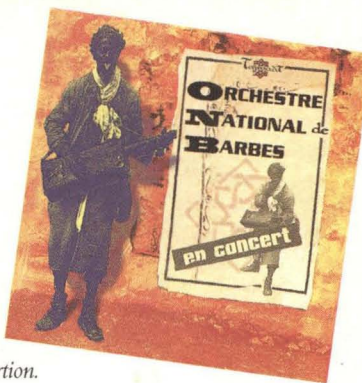
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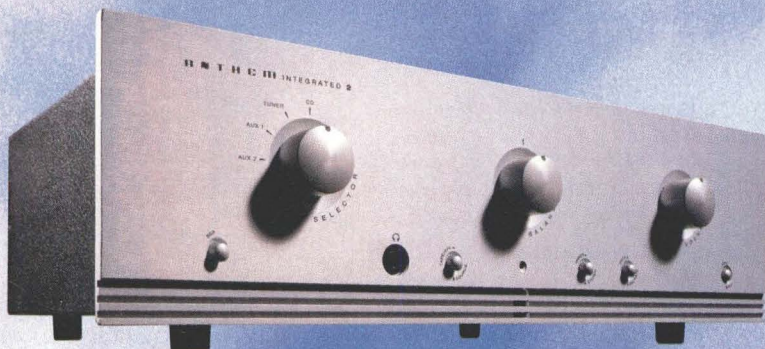
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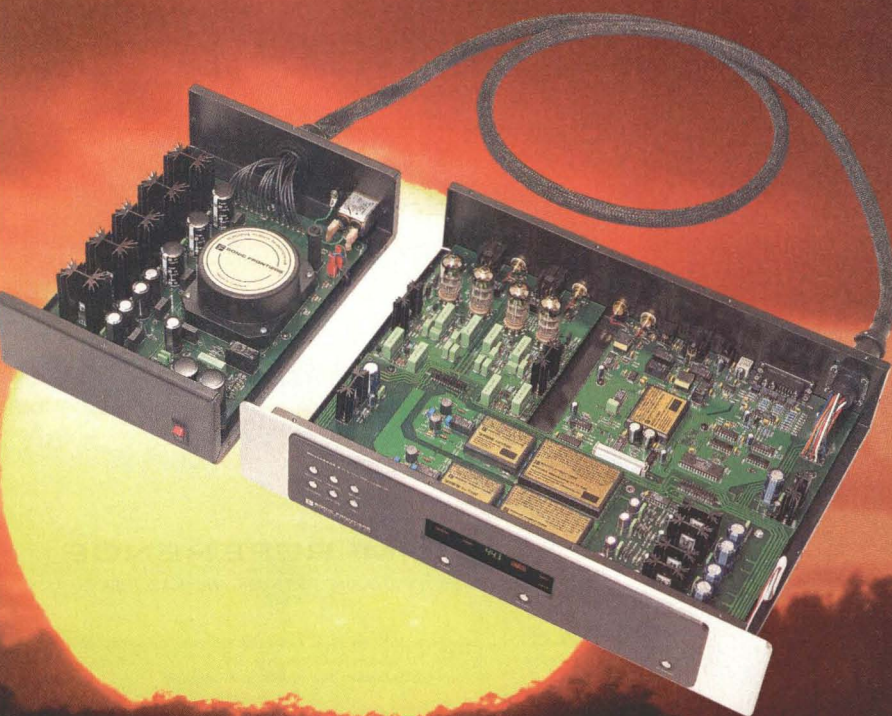
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Letters

Sound performance

Editor:

Stereophile's coverage of car audio is both humorous and an excellent showing of openmindedness. It shows me that *Stereophile* is not just an advertising machine—that you are actually concerned with obtaining excellent performance from electronic gear in many applications. Bravo.

Alex Carreira
Calgary, Canada
aycarrei@acs.ucalgary.ca

Reaffirm my faith

Editor:

It has been some time since I subscribed to *Stereophile*. The reason I let my subscription run out was your foray into car stereo. I, much like the guy in *Green Eggs and Ham*, do not like car stereo. In fact, I think it is silly and a waste of money. If it appears that I am passionate about this, then so be it. What is life without passion?

This letter, then, is to inquire if *Stereophile* still covers in-the-car garbage. If you still include car stereo, then I shall not subscribe... If, however, you no longer cater to the prepubescent, I shall happily begin receiving your magazine once again.

Please reaffirm my faith in the High-End publishing world. [Name withheld]
ilwjc@pacbell.net

The next installment of Wes Phillips' personal odyssey into 12V World appears in the November Stereophile. —JA

Sound advice

Editor:

I agree with Sam Tellig's excellent advice in the July *Stereophile* (p.39): "Buy tickets for your local symphony, chamber music society, or—if you're lucky—opera company. Hear some live jazz or blues." Stereo buffs need an acoustic criterion for judgment of components.

There is no substitute for the exciting sounds of a group of fine musicians in a good acoustical environment. Sam also mentioned "Go hear the Vienna Philharmonic live... at the Musikverein." In June my wife and I did exactly that. We heard the final concert of the season of the Vienna Philharmonic at the

Musikverein in Vienna. Sitting in the middle of the hall on the main floor, I have never heard a symphony concert in such a marvelous acoustical environment. The orchestra itself is world-class—some would even say it's No.1—and the hall is reputed to be the finest in the world acoustically. I have never heard such midrange definition and clarity of orchestral music in any other performance hall. The audible separation of instrumental sounds and the overall effect of this world-class orchestra in the Musikverein left my wife and me speechless (for much longer than usual).

A word about tickets to these concerts: Arrange for them in advance. The orchestra is usually sold out, and the best you can do on the spot would be to appear early on the day of the concert at the executive office on the second floor of the Musikverein in hopes of getting a cancellation or standing room. Standing room is at the rear under the balcony. This is not a good acoustical spot; the hall does not "come alive" here. Seating on the main floor is fantastic, however, and has been my ultimate symphonic acoustical experience. I thought to myself, "What type of loudspeaker could reproduce this—horns, electrostatic, conventional?" There isn't any!!!

Don't argue—Go hear it!

Jim Brauningner
Assistant Concertmaster
Des Moines Symphony

Sound experiences

Editor:

Raising two boys had distracted me. My stereo gear was 20 years old and taken for granted until my CD player died. I

then noticed that the foam cone surrounds in my speakers were shot. My wife insisted on going with me to buy the new speakers. "Oh fine, you can come," I grumbled.

My wife's approach surprised me.

"The old speakers [Nestorovics] lasted 20 years, so let's find speakers that we can enjoy with confidence for another long run."

She was prepared to spend three or four times the amount I had in mind, with the philosophy that the cost would be amortized over many years. I wasn't emotionally ready for the Italian \$4500 speakers she liked, so we compromised on KEF Reference Model Twos.

The game was afoot.

The old Nakamichi preamplifier went next, and in came a Naim preamp and power supply. Wow! I bought everything I could find to read, including two years of *Stereophile* back issues. I design yachts for a living, and I have been the technical editor of *Sailing* magazine for the past 22 years, so I relate to your excellent mag easily, and appreciate the balance of consumer and market-related pressures and interests.

I bought a Cambridge Audio CD 6 to replace my old Yamaha. I traded it in after three weeks on a Rega. (I read JA's review.) I favored the silkier sound of the Rega and fell in love with its clever design. My wife was beginning to get suspicious as the boxes came and went.

Saturday I came home with two new boxes: the Rega and a new Naim Audio 180 amplifier to replace my venerable Harman/Kardon Citation 16. (I have to thank Hawthorne Stereo of Seattle for hours of uncommon service, patience, and understanding.) I had read in *Stereophile* that a reviewer had used a Gordon Lightfoot CD, *If You Could Read My Mind*, to demonstrate vocal reproduction. Lightfoot had been "our singer" when my wife and I met, but the last time we'd played him had been about 17 years ago. On the way home with my new Naim amp and Rega CD, I stopped on impulse and bought *If You Could Read My Mind*.

"What's this?"

"It's the new amp." She seemed to not notice that I had traded in the three-

Letters to the Editor should be sent to The Editor, *Stereophile*, P.O. Box 5529, Santa Fe, NM 87502-5529. Fax: (505) 983-6327. E-mail: John Atkinson, jatkinson@stereophile.com or Letters@stereophile.com. Unless marked otherwise, all letters are assumed to be for possible publication. If you have problems with your subscription, call (800) 666-3746 or visit www.stereophile.com.

week-old CD player for the Rega.

"Hmmmmmm." She laughed and stood by, waiting for the demo. I fumbled with my new Naim speaker cables and installed the new Rega. She eventually went back to her weaving in the family room.

Everything ready and powered up, I put on the Gordon Lightfoot CD. His resonant voice filled the room.

"Oooooohh!"

She came into the living room, eyes brimming with tears and arms open as she rushed over to me. We embraced, sharing the room's sweet spot and letting the music do for our 22-year-old marriage what I certainly could not do with words anymore.

What can I say? She loves the new gear.

Robert H. Perry
Seattle, WA

Ridiculous experiences

Editor:

Stereophile's "Letters" section is ridiculous. You allow every loudmouth and braggart seemingly unlimited space for his self-centered silly ideas. If you really want to publish letters, then do, please, abbreviate them!

Peace!

J. Seabrook
Lockport, IL

Overexcited?

Editor:

I pick up a copy of *Stereophile* now and again at Kuching airport in Sarawak, Malaysia. I always find it very entertaining and interesting reading, but I'm really struck by how angry *Stereophile's* readers are. I would think that with all the fantastic sound that comes out of high-end stereo equipment, your readers would be more, well, excited in a positive manner.

Gregory N. Brylski
Kuala Lumpur, Malaysia
foxmng@po.jaring.my

Why indeed?

Editor:

I just received the August 1998 *Stereophile*. I am perplexed why people who want to cancel their subscription have to preface it with a 2000-word dissertation.

Lyman G.L. DeLiguori, Sr.
lgldsr71@earthlink.net

Do they come back?

Editor:

I don't always read many of the letters, but I read all of the August issue's, taking notice of the large number of audiophile curmudgeons who like to write letters to you. I then read some recent past issues, and there they were again!

Some of the ranting letters, when read by a third person, seem a little silly, yet they're usually well written, especially when they end by stating that they want their subscription canceled.

Do you keep track of how many cancellers resubscribe later on? Just a hunch, but I bet many do. Maybe some of them avoid the embarrassment by buying the magazine at a newsstand or high-end dealer. No audio magazine is perfect, but people who are into audio have got to get *Stereophile*, along with a few of the other good ones.

I promise: even if I get really, really mad at one of your frequent blasphemies, I will not cancel my subscription.

Jeff Capshew
jdcapshew@aol.com

Two plus two...

Editor:

It all makes sense. You print all the stupid letters from readers at the beginning of "Letters"—you know, the letters that complain about expensive or esoteric equipment, and cancel subscriptions for some puerile reason—in order to soften up the other readers for the middle-of-the-road equipment reviews that will come our way now the magazine has been sold. (When I say "middle-of-the-road" I mean pedestrian, not affordable. "Affordable" is not a dirty word, and neither is "expensive.")

From the equipment reviewed in the July 1998 *Stereophile*, it seems the change has already started.

Peter D'Castro
Melbourne, Australia
dcastrp@cba.com.au

... makes five?

Editor:

Just received the August 1998 *Stereophile*. The cover says "Affordable Integrated Amps." I think, "Oh no."

I opened the cover with dread, then saw there were also reviews of kilobuck cables, a kilobuck CD player, a kilobuck RoomLens?!! And some other loony-fi. Aaahh... that's more like it!!!

High-end audio? Sheer adrenaline madness.

Peter D'Castro
Melbourne, Australia
dcastrp@cba.com.au

Watered down?

Editor:

I found it interesting reading the letters of concern in August that *Stereophile* might be watered down to be more like *Stereo Review*, then to see on p.54 an ad for Polk loudspeakers. I know *Stereophile* recently favorably reviewed a pair of Polk speakers. I'm not saying they're

bad—I've never heard Polk speakers. [But] Polk is the newest speaker line carried by Circuit City, and I'm just not sure whether Polk has ever advertised in *Stereophile* before.

Kenneth R. Vance
v001@epix.net

An informed choice?

Editor:

In the more than 10 years I have subscribed to *Stereophile*, I have been pleased with the many improvements, such as the first-class layout, the attention to detail, and the balance of content. However, there has been a trend I don't like, one that slowly diminishes the value of your magazine: There are too many positive reviews—both for equipment and recordings. Over time, these reviews sound pretty much alike and don't differentiate one piece of gear from another well enough.

This change from the bite and authority of the reviews of earlier days is not categorical, however. Some reviewers have raised the bar as equipment has improved and retained their critical stance, but many have employed a style that favors an entertaining read that imparts a feel-good conclusion about the high-end hobby instead of helping readers find the best value in equipment and recordings.

This makes for pleasing fluff, but over time is unsatisfying and, worse, points *Stereophile* toward the direction of slowly becoming another *Stereo Review*.

Now, of course, there is a major difference. *Stereo Review* relies primarily on measurements to tell us that everything is good. *Stereophile* primarily listens to equipment to tell us everything is good. But either way, if everything is good, or different in only very minor ways, why take the time to read the magazine? Why not just go to a dealer and buy whatever he has? How much value would you find in a movie reviewer who finds that nearly every movie is good and therefore worth seeing? Doesn't the film reviewer's value lie in sorting through the junk that's released each week to find the gems, or at least in describing the film's content to the extent that the reader can make an informed choice?

Lester Rich
lrich@wlv.hp.com

Bright spots

Editor:

I have noticed that *Stereophile* has become far too political. Please leave the minorities alone. We are tired of being exploited for your political gain or entertainment.

But... there have always been one or

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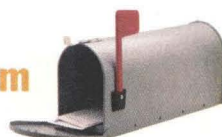
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two bright spots regardless, and right now one is Sam Tellig. I am not here to tell you how and in what direction you are to steer your magazine, but one of the few reasons that I still read your magazine is because of the real writing, for real people, that Sam does.

Bryan Pedersen
bryan_pedersen@sunshine.net

Success

Editor:

Every issue of *Stereophile* is great! Congratulations on Petersen Publishing's new ownership, and your continued success.

Jay M. Carstensen
[Address withheld by request]

Ignorance?

Editor:

Please cancel my subscriptions to *Guns & Ammo*, *Handguns*, *Shotguns*, and *Rifle Shooter*. I am shocked and disgusted at the fact that Petersen Publishing has purchased *Stereophile*. When I think that my dollars (which I could be spending on a nice 'scope or new Glock) are cross-funding a magazine like *Stereophile*, which glorifies the very equipment that thousands of children and teenagers—bought by their parents, of course; there isn't a teenager out there who could afford even the lowliest "budget" system reviewed in your magazine—use to fill their impressionable minds with the music of Ozzie Osborne, Marilyn Manson, Nine Inch Nails, Public Enemy, etc., which then influences them to use drugs, commit suicide, join gangs, kill cops, or engage in violent, aggressive sexual behavior, it ought to be clear that you can consider my support terminated.

Seriously, Mr. C. Bernard ("Letters," August '98, p.10), your ignorance is probably the most disgusting and shocking thing of all. When will liberals like yourself stop assigning some inherent evil to a piece of forged metal, and start realizing that the evil in this country has more likely been spawned by your promotion of guilt-free sex, abortion on demand, outcome-based education, the stripping of religion out of every aspect of government, and an all-out attack on the most basic unit of society—the family? Your "Political Correctness" has replaced freedom of speech. Where is your logic? Where is your reason? The school nurse needs permission from a child's parents before she can give them an aspirin, but that same child can obtain an abortion at any time, legally, without telling her parents.

This liberal movement has created a

nation that is turning out more sociopaths than the liberal media can ever hope to cover. Mr. Bernard, maybe you and all the other upset readers should get together and burn all your back issues of *Stereophile*. Why not throw in a few other books to get the fire going?

I agree with Joseph Cierniak ("Letters," August '98, p.25) that the editor should be allowed to freely express his opinion, but he should be prepared to print more letters like mine. For JA and his agreement on the gun-control comment, I'll tell him this: In seven years of law enforcement, I've learned one thing: that criminals don't obey the law—that's why we call them criminals—and they're not going to obey gun laws. I'll leave you with the following quote: "This year for the first time a civilized nation will have full gun registration. Our streets will be safer, our police more efficient, and the world will follow our lead into the future." —Adolf Hitler

By the way, thanks for a great magazine. Keep up the good work.

Bryan Nelson
Phoenix, AZ
XSForce11@aol.com

Politics

Editor:

I do not buy *Stereophile* to read about politics! In the August issue (p.59) I was assaulted by the political views of Michael Fremer. It totally ruined the whole issue for me. If this happens again, I shall be forced to cancel my subscription.

Is your whole staff a bunch of leftist pinkos? This is the impression that I have after reading the letter from the editor of *Sound Off* ("Letters," August, p.25), and editorials from Larry Archibald, John Atkinson, and now Fremer. If I want to be assaulted by gay rights, baby killing, and Christian-bashing articles, I can pick up many other magazines and get my fill. I don't expect it from *Stereophile*!!

Jim Maddox
Collierville TN
jmac7@bellsouth.net

We're all audiophiles

Dear fellow *Stereophile* readers and friends:

I call you friends because we share a common passion. To one degree or another, we are all obsessed with the production and reproduction of music. Friends, I am disturbed by the tone of letters I have been reading lately in this magazine. There is a meanness of spirit that I, for one, find out of place in a publication that deals primarily with a

rather refined art.

Don't get me wrong. I love a spirited discussion of politics and class issues as much as anyone I know—provided that the discussion remains civil. However, let us confine these discussions to how these issues relate to audio. For example, I consider the issue of whether this publication and its readers are elitist or out of touch much more germane than "skirt-chasers in the White House" or assertions of left-wing ideology.

Let us not distract ourselves with statements that right-wing readers might take offense to one cartridge manufacturer's maintenance policy being "liberal." Folks, forgive my egocentricity and my elitism, but *I believe that we are better than that!!* We love the art, and we put our bucks where our hearts are.

People, we will spend more on a set of cables than other folks spend on a component. We will spend more on a component than normal people will spend on their systems. And (blush not, fair maidens) we are willing to spend more on our systems than a sane person would spend on an automobile. Why? Because we can tell the difference, and we are willing to spend time and money to pursue perfection.

Liberal, centrist, conservative, well-heeled or just getting by, we are all audiophiles. Let's use our outrage and fervor to keep the High End alive in a world where multichannel mediocrity threatens to overwhelm the keepers of the flame. The mid-fi realm would love to eliminate the true High End and get its hands on us.

Perry McCoy
PerryMc@aol.com

More politics

Editor:

There was much ado about the purported danger of *Stereophile* becoming a "political rag" in the June issue's "Letters," as readers (and one now ex-subscriber) argued that politics should be left out of the magazine. [See Mr. Moss's "No politics!" letter on p.19, for example.] I am hoping, however, that the space devoted to political commentary in *Stereophile* actually increases, since I cannot afford most of the equipment it reviews anyway.

I, too, would like to see more rock music reviewed in *Stereophile*, because I do not subscribe to *Rolling Stone*. [See "More rock, please" and "The music stinks?" in June's "Letters."] Too much space is devoted to musical flavors that I am not familiar with, and I certainly don't wish to expand my musical interests to anything that is not immediately accessible. Granted, I do like some clas-

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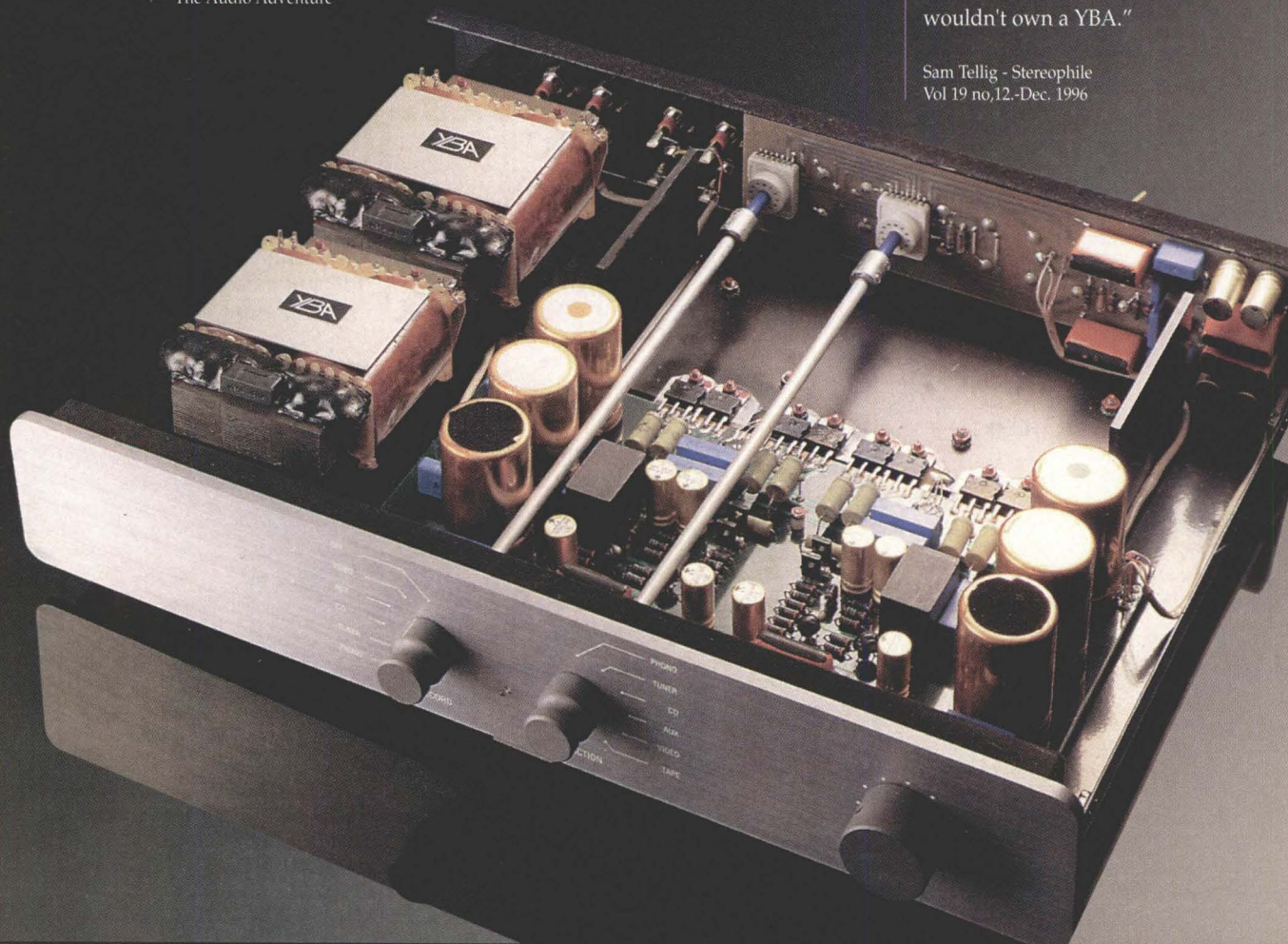
Hi-Fi News-Ken Kessler.

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Fi-Nov.1996

"YBA gear is like a Mercedes automobile, even the less expensive models are built to a very high standard. Yes, you can buy someone else's separate preamp and power amp for the price of the YBA Intégré. But you wouldn't own a YBA."

Sam Tellig - Stereophile
Vol 19 no.12.-Dec. 1996



sical music, but only the standard popular fare by Mozart, Beethoven, and the stuff used in Bugs Bunny cartoons. This is why anything a little unusual—like Adolphe and Partch in June's Classical reviews, or even Tortoise in your Rock section—should not be included in your magazine. I just like the music I can hear every day on any radio station.

Funny, but my musical interests are a lot like my political views—I wish to have neither broadened or challenged by *Stereophile*. I look forward to more political coverage in future *Stereophile* issues, but remember to keep it safe and cater to popular sentiment. If you challenge my views and predispositions politically—or musically, for that matter—then there is a real danger that I might learn something new. And if there is a chance of that happening, then I am bound to cancel my subscription.

Phojos Kendulah
Toronto, Ontario, Canada

More music

Editor:

I have spent many and, yes, many more thousands of dollars on a very good sound system and listening room for the following reasons: Van Morrison, Bob Dylan, the Stones, John Martyn, Neil Young, Miles Davis, Pink Floyd, Dire Straits, Carlos Santana, Guy Clark, Greg Brown, Weather Report, Emmylou Harris, Jimi Hendrix, Frank Sinatra, Glenn Miller, Lou Reed, John Mellencamp, Buddy Guy, Willie Nelson, Delbert McClinton, John Lee Hooker, Willie Dixon, Beatles, Bob James, DaDa, Primitive Radio Gods, Dave Brubeck, Wes Montgomery, Oasis, and on and on.

Okay, I know I didn't mention Mozart, Bach, Holst, Beethoven, Tchaikovsky, and all the old and new classical masters. Don't despair, we can't all start at the same place at the same time, but, just as soon as time permits, I'm sure gonna try to give them all a try. Classical zealots, please don't be angry with me.

Oh yeah, *Stereophile*, keep telling me what's going on, whether it is grossly expensive or threateningly reasonable. The better the above and all the others sound, the more I love 'em, so I suppose I'll continue looking for that perfect new piece of hardware for my less-than-perfect music world.

Greg Margerum
Ft. Myers, FL
Walrus061@aol.com

Stop the bickering

Editor:

How much more of this sterile bicker-

ing do we have to put up with? Classical is better than rock, and vice versa? Honestly, it's like listening to a couple of 13-year-olds: "You don't like band A? Well, band B are crap too!"

Liking *Das Lied von der Erde* does not preclude liking Iggy Pop; listening to Vaughan Williams' *Tallis Fantasia* does not stop you enjoying Jimi Hendrix; etc., etc.

Grow up! Open your minds! Celebrate the wonderful diversity of music.

David Dallard
daved02@surfaid.org

The real threat...

Editor:

I became so weary while reading the July and August "Letters" columns. All of the hipper-than-thou, frustrated musicians/composers/music critics and overly verbose egomaniacs are missing the point. Stop whining and arguing. Given the works of Camille Saint-Saëns, Aaron Copland, Miles, Trane, Keith Jarrett, Jack Bruce, Ray Charles, Joni, Little Richard, etc., there are ample hair-raising moments to be experienced in classical, jazz, and rock.

The true threat to our musical sanity is "smooth jazz." It's not Kenny G's fault. His body has been entered by aliens, and he is being forced to play the drivel that drives us screaming from restaurants and has caused untold drivers to pass out at the wheel.

Stop the infighting and let's notify the authorities, circle the wagons, and do to smooth jazz what we did to disco 20 years ago.

John Vourtsis
Mountain Lakes, NJ
vourtsis@worldnet.att.net

Stereophile rocks?

Editor:

Does *Stereophile* have any plans to do a CD with some popular music? I've read the descriptions of the red-carpet treatment given to your two last classical CDs, but the material itself didn't appeal to me all that much.

Agim Perolli
perolli@worldnet.att.net

Wes Phillips and I recorded a CD at Chad Kassem's Blue Heaven studio in Salina, Kansas this past August, with a Nagra-D and a Tascam DA-38 synchronized and rigged to provide 10 channels of 20-bit data. Featuring Sonny Rollins' bass player Jerome Harris leading a jazz quintet, the CD is scheduled for release in January 1999.

—JA

Robert's wrong

Editor:

I totally disagree with Robert Baird's comments concerning Andrea Bocelli,

and *Romanza* in particular ("Aural Robert," August '98, p.147). I think Bocelli is the greatest young tenor in the world, and his recordings (and VCR tape) are simply electrifying! The fact that he has attained "crossover" status, and is garnering interest in classical music and opera throughout the world, should be the subject of rejoicing, not castigation, at *Stereophile*. You would do your readers a service by putting Bocelli on your cover, publishing a long, exclusive interview, and attempting to do a high-end recording with him.

To compare Bocelli with Yanni is really a cheap shot. It suggests that Mr. Baird is missing a revelation that should instead be compared seriously to Caruso's of a previous generation.

I would point to other reviews of Bocelli's singing, such as the *Washington Post* article (April 26, 1998) on his Kennedy Center debut on Sunday, April 21, 1998, which Ken Ringle headlined, "Even When Bocelli Misses the Mark, It's a Glorious Miss." He said, in part (in comparison to Pavarotti and Domingo), "...Bocelli's is an amazing voice nonetheless. It is a far younger, smaller, and even more boyish voice than Pavarotti's at the same age, but it carries a soulful purity that is absolutely mesmerizing in its upper registers." *Bravo!* And when you add his handsome appearance, wholesome family and private life, triumph over handicaps, diversified background, and self-effacing personality... what more can you say?

Andrea Bocelli is a true modern-day hero and role model in the classical music world.

Foster N. Acton
(an original *Stereophile* subscriber since
Vol.1 No.1, September–October 1962)
Gaithersburg, MD
foster@erols.com

Free enterprise?

Editor:

In the August issue's "Industry Update," Barry Willis describes steps taken by B&W to prevent the transshipment of their products. This example illustrates that the marketing of high-end audio and video products (companies) resembles a feudal state (complete with fiefdoms), stifling competition and keeping retail prices artificially high. In a free-enterprise system and a global economy, we consumers should be permitted to purchase audio and video products from dealers of our choice, not from a dealer of a company's choice based on geography.

For example, there is a local audio dealer with whom I do not wish to do

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—D.B. Keele, Jr. on the new Celestion A3, *Audio* August 1997

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No matter what source materials he selected, from Mozart symphonies to movie soundtracks, Keele was amazed by the A3's performance. He wrote that "their dynamic range and effortlessness border on the best I have ever heard" and that "their imaging and localization could not be faulted."

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business. However, I wish to purchase a product that they sell, yet I am prevented from ordering that item from a dealership of my choice in another city by an antiquated feudal marketing system that is found throughout the audio and video industry.

Imagine if this same marketing scheme were used in the automobile industry, with consumers forced to purchase their cars locally, and also imagine what that would do to the selling price of automobiles.

I do not advocate that we avoid our local dealers, but it is time that free enterprise in the high-end audio and video industry became a reality so that we can choose our own dealers.

Michael Spurgeon
Raymore, MO

A huge problem

Editor:

As Jim Thiel said in his *Stereophile* interview last March, retail distribution is a huge problem for serious audio. There seem to be far more people making good equipment than there are places to hear it. For example, here in Washington, DC the local ProAc dealer is in a warehouse in a low-rent business district of an old suburb. I'm not sure when the guy is in the store. I know what his hours are supposed to be, but every time I call he seems to be out. (He has his phone forwarded to his home.) Monitor Audio doesn't even have a dealer in metro Washington.

As you might be aware, a number of manufacturers are using the Internet for distribution; and the 'net is, in my opinion, hugely successful at having created a very good market for used equipment. I know *Stereophile* has occasionally reviewed mail-order product, like the Van Alstine electronics and the ACI Titan subwoofer. I hope you will do more of that in the future, as a way of giving a start to these guys who lack good retail distribution. I know that you don't want people to buy a product solely on the basis of a review, and you might be more concerned about that if you review a mail-order product. Most of these people sell with a trial period, but the customer still ends up paying the freight one or both ways. For a 200-lb pair of loudspeakers, that can be considerable.

A review of a product could help a buyer decide whether it's worth risking \$60 or \$100 to give that product an audition. And, if any Internet or mail-order seller declines to send you a review sample of its product, that's

something the rest of us should know.

R. Bruce Beckner
brucebeckner@worldnet.att.net

Retailers good and bad

Editor:

In recent issues I have read a number of complaints about the treatment of customers by hi-fi dealers. I too have had similar treatment. It seems that if you don't walk in wearing a suit, they don't think you have the resources to make a purchase. I have been to some of the "well-respected" dealers in the Delaware and Maryland areas searching for a pair of minimonitors in the \$1000/pair range. I went into these stores with my credit card in hand just waiting to be used.

Most recently I went to a shop in Wilmington, Delaware and the salesman made absolutely zero effort to sell me a set of speakers. He was just plain uninterested in "showing speakers to someone dressed like that." Just because I was in shorts and a tank top doesn't mean I don't have money.

I then stumbled upon Avalon Audio in Medford, New Jersey. I made an appointment with Bob (the owner) and sat with him for more than an hour listening to whatever I wished. I visited a few more times and phoned even more times before making a deal that has me more than satisfied.

I will be making a very large purchase in the near future, and can guarantee my money will be going to Bob at Avalon Audio. Seek out the small guy who doesn't judge you, and whose business relies on customer satisfaction. Readers will do themselves a favor to make the effort to find someone who is willing to work with them. There are some great dealers out there; you just have to look for them.

Bob, if you see this, you are the best.

Tony Cerasaro
jrcarc@aol.com

Don't fidget

Editor:

Alright, now sit down and don't fidget. You all have needed a stern talking-to for a while, and, darn it, I'm just the man to do it. It's time for you to help out your new, poorer audiobuddies. We're faithful readers, starting when we're young and impressionable, and we stick with you, gaining knowledge, learning about the stuff we can only dream about. Finally, after long, torturous years, we graduate from college, excited to buy "real" equipment, and... still don't have the disposable income. Thus, you're

gonna get yelled at.

Now, I'm not saying *Stereophile* doesn't review some lower-priced equipment. Sam Tellig does a nice job, such as with the Denon amplifier. And the reviews of the Polk RT5 and B&W 302 were decent also. But we want more. We're talking low-priced separates. We're talking under-\$1000 tower speakers—think Mirage, B&W, and others. We ask you to do this for us because we trust your opinions, and that trust has been long in earning. Now it's time to pay some back.

We put up with ridicule from the rest of our unenlightened generation (and older), who laugh at our "perceived" differences in CD players (oh, yeah, enough with the reviews of \$2000 esoteric CD players—you know full well we're holding out until the DAD decision happens in the marketplace); our foolish notion that we can hear differences in amps outside of their operating extremes; our, heaven forbid, belief that there might be a difference in proletrian cable, of all things.

So call the manufacturers and order yourselves some cheap gear. Hell, even order Fremer a ratty little turntable and make him play with \$150 cartridges (ya gotta admit, that gives you a chuckle). [See this issue's "Analog Corner."—Ed.]

Stop fidgeting, I'm almost done. There's another reason—the new audiophiles starting now, just at this moment grabbing the issue of *Stereophile* from the shelves 'cause they're shopping for a CD player. They flip through it, spilling hundreds of subscription cards all over the floor. They don't see anything remotely in their price range. So they pick up *Stereo Review*—"The leading AV magazine!"—and find out (gasp!) that this Piojunk 100-disc changer that costs \$179 performed just as well as a reference costing 10 times that! That deal at Best Buck was good after all! You've lost another potential reader—and, more important, a potential audiophile—to the mid-fi dirge, from which they may never recover.

Okay, you can get up now. But take my words to heart, and don't fidget.

Bishop
Kapswan@aol.com

The millionaires' guide?

Editor:

In 10-plus years of subscribing to *Stereophile*, I've been tempted (on several occasions in the last two years) to fire off a letter regarding the price of the components reviewed. However, I would always wait...confident that

within the next issue or two you would review something reasonable. And sure enough, you would eventually review something within my price range. (For example: Rotel, B&K, Adcom, PSB, Snell, Sony ES, NAD, Vandersteen, Thiel, Paradigm, etc., etc.) Kind of like throwing an old dog a bone once in a while just to keep him content.

I think it would be interesting to take an average of the price of *each group* (ie, average loudspeaker price, average power-amp price, etc.) of components that you have reviewed so far just this year. Not an overall average... after all, throwing some isolation cones or other accessories (that cost just a few dollars) into the equation makes your overall average look pretty good. But if one averaged each group, I'm sure the numbers would be astounding.

Lately, my routine for "reading" your magazine's equipment reviews goes something like this:

- 1) Look at the component's price and find it costs about the same as a good used car (or, lately, a new car).

- 2) Read the "Conclusion" section of the review and learn that it sounds great... surprise, surprise!!

Why *shouldn't* a \$5000-plus amplifier sound *great*? And if it *only* sounded *good*, how many of your readers do you think would really care? Maybe there are some \$10,000-plus speakers out there that sound like crap (I've never read or heard about any). But if there are, how many of your readers really give a shit?? Why? Because, when it comes to actually considering a purchase, whether they sound good or bad doesn't really matter if the average reader couldn't afford them even at half the price.

Yes, I as much as anybody occasionally enjoy reading about the latest state-of-the-art Mark Levinson amplifier (or Wilson Audio loudspeaker, etc.). After all, if we don't look at the highest of the High End once in a while, how do we know what we're shooting for? But in my view, this should only comprise a very small portion of the equipment you review. A good analogy would be car magazines like *Road and Track* or *Car and Driver*. Yes, they do test the occasional Ferrari or Jaguar. But the bulk of the tests are based on the more affordable Fords, Hondas, Chevys, etc.

Did someone sneak off and change *Stereophile's* name to *Stereophile Guide for the Millionaire* (and not tell anyone)?

Jeff Smith
Charleston, WV

Mr. McInerney's guide

Editor:

I truly do not understand letters such as that from Gene Endres in the July issue (p.9), in which he states that he must quit reading the high-end audio press, since they tout products that, on his college-staff salary, he cannot possibly hope to own.

I work for a university. I am in my 50s, and have two children left to put through college. Despite my modest means and considerable obligations, however, I decided a couple of years ago to upgrade my speakers (from trusty KEF Coda IIIs) and my electronics (a 25Wpc Yamaha receiver), all of which I bought in the early 1980s.

My reading of *Stereophile*, primarily, and *Soundstage* (www.soundstage.com) gave me some leads on which brands to audition. I was determined to support the three local audio stores, if possible. After months of reading and listening and then reading and listening some more, I settled on a pair of Paradigm Reference Studio 60 speakers and a Rotel RTC-940AX combination tuner/preamp (line-level inputs—I have gone exclusively to CDs) and a Rotel RB-980BX amplifier. I replaced all interconnects in the system (I was using the cheap ones that came with the components) with Kimber PBJ, and cabled the speakers with Kimber 8TC.

These \$1100/pair speakers are wonderful. Reread Robert J. Reina's February '98 review (Vol.21 No.2) of the Reference 20, and imagine that speaker with more bass and no need for stands. I am very pleased with the Rotel electronics as well, and with the Kimber cables. All of these are in the low end of serious audio equipment from the standpoint of price, and yet all provide great enjoyment from the standpoint of quality. And it was through reading *Stereophile* that I knew to audition these components.

I now have about \$2500 invested in the speakers, the electronics, and the cables. Not a trivial expense, but we had budgeted for this purchase, and we paid it off over a number of months. And now I am scheming to raise the money to upgrade my source components, and again I will rely on *Stereophile* and *Soundstage* and similar audio publications for leads on where to begin auditioning.

William D. McInerney
West Lafayette, IN
bmcinern@purdue.edu

Recommended tweaks

Editor:

A great tweak, albeit more expensive

than the \$1.20 tweak Sam Tellig mentioned in the March issue of *Stereophile*, is to use three Beanie Babies per speaker. Place one atop each front corner and one in the middle between the rear corners of each speaker (six Beanies in all). Man, if that don't get the juices a flowin'! And the combinations are only limited by the number of Beanies produced (ie, many)! I've found that Hippity, Hoppity, and Floppity work exceptionally well on my left speaker, and Prance, Inch, and Weenie work phenomenally well on the right one. Must be the damping/vibration-absorbing qualities of those wonderful beans in those babies.

For those who have minimonitor-type loudspeakers on stands, you may want to try the Teenie Beanie Babies that are available at McDonald's fast-food restaurants. The only drawback is, you have to purchase their (in my opinion) wretched food. But if you have kids...

Try it, and don't be afraid to experiment with different characters and placement.

Tim O'Connor
oconnor.tf@ecolab.compuserve.com

Yes, I can imagine this tweak might work. For years—before I heard of the \$1.20 tweak—I placed two Maurice Sendak "Wild Things" creatures on my speakers, one per speaker. I think they helped to absorb bad vibes and better disperse the sound.

I assume Tim is joking, but the scary thing is, anything you do might have an effect on the sound.

— Sam Tellig

Recommended systems

Editor:

I intend to put together a new system in the near future and have reached a stumbling block. I am finding the process of matching components difficult. Basically, I know I like this speaker or that amplifier, but I'm always asking myself the question, "How would they sound together?" I request that, in your magazine's equipment reviews, you make the effort to list as many complementary manufacturers or components (including cabling) as possible.

If the scope of this suggestion would be too large, consider this as an alternative: When you publish "Recommended Components," you could include a "Recommended Systems" section. Each category could include four or five complete systems comprising components that your reviewers find to be well matched. And, of course, some of the components in these systems may have alternate components listed where deemed appropriate.



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I realize that the first suggestion may be a stretch. The feasibility of it is, after all, based on a major generalization. I am working on the basic premise that manufacturers' components all pretty much have the same sonic qualities up and down their line. For example, if Company A makes bright speakers and Company B makes bright amps, you would never want to see this combination in any system. I realize that this is an oversimplification, but many stereo enthusiasts who read your wonderful magazine are just looking for basic advice. Of course, we don't just buy on your advice, we listen to the equipment too. But it is far easier to listen to an individual component that you are considering than it is to listen to more than one component that you are considering together.

I would think it safe to assume that there are many music lovers such as myself who don't have ready access to multiple high-end salons and who are shopping for components in the moderate price range. People like us are not looking for perfection, especially when it's so elusive in this endeavor anyway. We just want to put together a nice-sounding system as efficiently as possible, get it home, set it up, break it in, and start listening to music. I know that I'm going to be happy with the products I've chosen independently, as long as they're matched reasonably well. And choosing products that are matched well is the hard part, isn't it?

Don Hessong
donhessong@macconnect.com

Yes, Mr. Hessong, matching systems is the hard part, and I'm afraid that you are right — your suggestion that we list all compatible products in our reviews is just not feasible. System matching is an art, not a science, and the only way to determine compatibility is to play the combination and listen to it. There's no shortcut. And, no, unfortunately we cannot assume that all products from any given company bear a familial resemblance to one another — not all products within a line are based on the same circuits, and even when they are, seemingly insignificant changes in passive components, such as capacitors, can have a tremendous effect on the sound.

In each of our reviews, we list the associated equipment used to reach our review conclusions. Our reviewers comment in the text on the combinations they tried in judging the component under review — if a particular combination did not work, or produced better or worse sound than another combination, they say so.

Trying every combination possible would make every review take so long that we'd be lucky to ever complete an issue. As it is, we have

to rely on our reviewers to describe their experiences accurately, try a representative sample of ancillary equipment, and leave it to the readers to listen for themselves.

You're also right that not every combination can be heard in any one store. That's why establishing a relationship with a local dealer is so important. A good dealer will let customers audition equipment at home in the customer's own system — which is, ultimately, the only sure-fire test for compatibility.

As to your suggestion that we publish recommended systems in "Recommended Components," I'm afraid that that, too, is just not possible. By its nature, "Recommended Components" is a capsule profile of a great many products, intended to point people back to the complete reviews of products that interest them, not serve as a substitute for them.

Thanks for writing — and for reading
Stereophile. —WP

Speaker distortion

Editor:

Martin Colloms' review of the Avantgarde horn system in June (Vol.21 No.6) was interesting. In a footnote (p.97), Mr. Colloms said it was his experience that the greater the current draw for a speaker, the higher the distortion (for a given sound-pressure level). I can follow his thinking on this: higher amperage would produce an increased amount of electrical and magnetic nonlinearities. Hence, higher efficiency could yield lower distortion. However, some drivers are specifically designed to reduce these forms of distortion. ScanSpeak, for example, uses a Faraday ring on many of its drivers to reduce flux modulation. Proprietary drivers used by Thiel, Revel, and ATC (among others) also are designed to mitigate the effects of magnetic nonlinearities.

Does Mr. Colloms feel that speakers with carefully designed motors would be an exception to his general observation?

Harry Beams, Jr.
colugo@juno.com

I've been waiting for some time for someone to pick up this ball and run with it. Many thanks, Mr. Beams. In fact, my statement about distortion being proportional to current draw paraphrases Paul Klipsch, in particular his AES paper on distortion comparing horns with direct-radiating loudspeakers ("Modulation Distortion in Loudspeakers," J. Audio Engineering Society, Vol.18 No.1, 1970).

When considering such a broad, all-encompassing proposition and relating it to available technology, you have to compare like with like in addition to accepting a large helping of generalization. You're right to assume that my endorsement of the Klipsch view, and my own

version of it, are based on many years of evaluating conventionally built drivers and systems. There are exceptions even here, thanks to the skill of system designers in maximizing the acoustic result for a given motor size. However, horn loading gives a huge leg up, as Klipsch was so keen to point out.

For many years there appeared to be little incentive to reduce speaker distortion, even at moderate listening levels. The average direct radiator will have 0.3–0.6% of total harmonic distortion, largely low-order second- and third-harmonic, which will do only moderate sonic harm. This broad experience also aligns quite well with comparable encounters with low- and zero-feedback tube amplification of similar nonlinearity.

The fact that such distortion is considered not immediately destructive of fidelity doesn't mean that it should not be reduced further.

A few speaker designers and driver engineers have argued for significantly lower values, achieved via costly and heroic designs of coil/magnet systems, high-linearity suspensions and surrounds, special magnet steel or pole materials, and the incorporation of conducting Faraday rings and sleeves to suppress eddy currents and related ferromagnetic-induced distortion.

Interestingly, even the electrical conductivity of the magnet itself is an issue. The claimed sonic superiority of a traditional Alnico cup magnet over a ferroceramic alternative is attributable to two factors. The much greater stray or fringing field for the ceramic type is one issue, while the other is a consequence of the low electrical resistance of Alnico alloy compared with the very high resistance of ceramic. The pattern of eddy currents is materially different for the two types.

Confirmation that such relatively subtle differences are significant by historic standards comes from more recent listening tests with newer generations of low-distortion drivers. These subjective results indicate that a reduction from the typical 0.5% level to a lower 0.15–0.2% is indeed worthwhile with high-quality systems auditioned with clean, high-resolution program.

Subjective observation suggests that certain aspects of tonality are then closer than before to a push-pull electrostatic design, which can feature better than 0.05% THD at moderate levels. Also, higher sound levels may be tolerated before fatigue sets in, and the clarity on complex scoring, such as massed choir, is significantly associated with such a reduction in distortion. These benefits are characteristic of both horn designs and expensive, high-sensitivity systems possessing superior linearity.

To conclude, the special low-distortion drivers such as those from ScanSpeak definitely are an exception to the rule. Certainly, lower distortion down to the 0.1–0.2% range is a worthwhile goal, compared with the 0.3%–0.5% level traditionally accepted by the speaker industry.

—Martin Colloms



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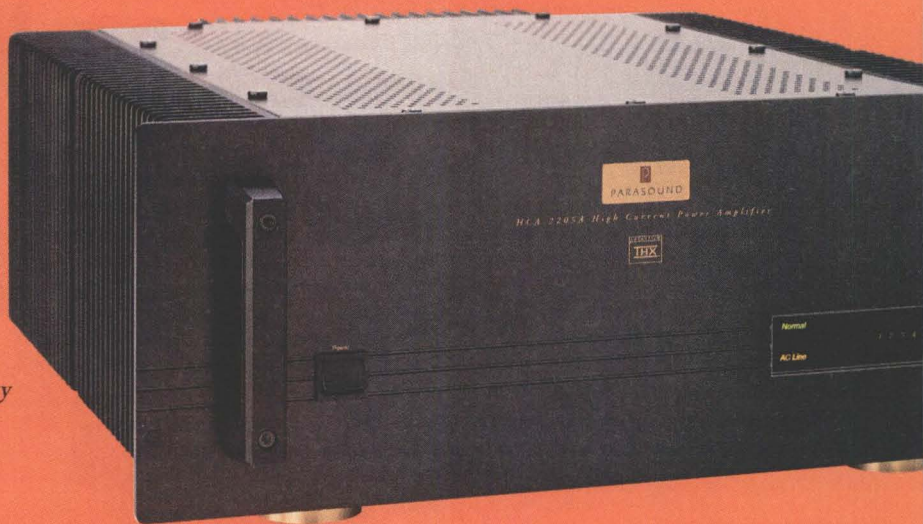
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John Atkinson, Stereophile, Vol.20 No.10

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UNITED STATES

Wes Phillips

On p.64 of the September *Stereophile*, I misattributed the cable in the superb Martin-Logan/VTL/Wadia/Z-Systems room as Transparent cable. The cable used was by Cardas (as correctly mentioned in the "Best Sound at the Show" table on p.109). I regret any confusion my all-too-faulty memory has caused.

UNITED KINGDOM

Paul Messenger

One of the pioneers of genuine high-end hi-fi in Britain died peacefully in his sleep on August 3 after a two-year battle with cancer.

Born in 1938, Peter Merrick was, first and foremost, a hi-fi dealer. He opened his first (and ongoing) shop in South West London in 1968; Unilet remained among the most successful and respected British hi-fi retailers throughout the 1970s and 1980s. Peter had a less xenophobic view of hi-fi than did many of his contemporaries, and it led him to start importing and distributing some of the more exotic hi-fi equipment from around the world. His introduction of brands such as Stax, McIntosh, and Monster Cable did much to broaden the perspectives of the whole industry.

Although I didn't know Peter well, his comments and opinions always merited serious attention, and his track

record demanded considerable respect. His straight-talking, no-nonsense approach often provided a beacon of sanity in an industry all too often inclined to wallow in its own hype.

UNITED STATES

Jon Iverson

The Paradigm Group announced on August 14 that they have entered into an agreement to purchase the assets of Sonic Frontiers Inc., of Oakville, Ontario, as the first step in a comprehensive restructuring plan that will lead to an expansion of Sonic Frontiers.

"It's a done deal—the papers were signed today at 1:30—we're off to the races," stated Chris Johnson, president of Sonic Frontiers.

As reported in *Stereophile* in the June "Industry Update," Sonic Frontiers had announced an initial deal with The Lenbrook Group that was never finalized and was called off by early June (see *Stereophile*, August '98). Chris Johnson explains: "Sonic Frontiers had originally started talking with Paradigm back in October of 1997 about a possible deal, but due to a new factory project they were undertaking, Paradigm was unable to consider the opportunity at that time. By the time the Lenbrook deal had dissolved, Paradigm was ready to talk seriously again."

Within days of the Lenbrook ar-

rangement falling through, Paradigm and Sonic Frontiers resumed their discussions, resulting in a handshake deal by the third week of June. Commenting on how quickly the deal came together, Paradigm President Jerry VanderMarel stated, "Having satisfied ourselves that the historical and cultural similarities shared by both organizations were strong enough to form the basis of a highly compatible working arrangement, it quickly became clear that a strategic alliance would help us satisfy many of our own corporate goals, including long-term product category diversification and our desire to support worthwhile entrepreneurial initiatives."

According to the announcement, "To facilitate the restructuring, shareholders of the Paradigm Group, as well as Sonic Frontiers principals Chris Johnson and Chris Jensen, have agreed to form a new company, Sonic Frontiers International (SFI)—with all parties involved at a managerial level. SFI will honor all existing and valid warranties on all products produced and sold—all existing Sonic dealers, distributors, and consumer equipment owners remain fully supported."

Unlike the proposed Lenbrook deal, there will be no new distribution channels and no "headcount reductions." Chris Johnson explains that "where there are synergies, however, we will combine resources to

Calendar

Those promoting audio-related seminars, shows, and meetings should fax (do not call) Steven Stoner the when, where, and who at (505) 983-6327 at least eight weeks before the month of the event—ie, the deadline for the December 1998 issue is October 1. Mark the fax cover sheet "For the attention of Steven Stoner—Dealer Bulletin Board." We will fax back a confirmation of your event. If you do not receive confirmation within 24 hours, please fax us again.

CALIFORNIA

● Saturday, September 26, 5:30–7pm: **San Francisco Stereo & Theater Systems**

(2201 Market Street, San Francisco) invites you to attend an evening with Robert Harley of *Fi*. Robert will be signing copies of his books, *Home Theater for Everyone* and the revised edition of *The Complete Guide to High-End Audio*, and answering questions about high-end audio and home theater. To make a reservation, call (415) 861-1044.

● Saturday, October 17, 12–6pm; Sunday, October 18, 11am–4pm: speaker manufacturer **Legacy Audio** is hosting a "Meet the Designer" open house to celebrate their new audition site for the San Francisco Bay Area. Legacy founder and

engineer Bill Dudleston will be on hand to answer questions at the Oakland Hills showroom of **J. Nelson & Company** (4231 Park Boulevard, Oakland). For more information, call (800) 464-6742 or visit www.jnelson.com for directions and a map.

GEORGIA

● Sunday, October 18, 2–5:30pm: **The Atlanta Audio Society** is hosting a listening session and seminar featuring Jud Barber of **Joule Electra**, a vacuum-tube amplification company. A raffle of CDs and accessories will be held. Location: The

the benefit of both companies."

"More and more, we are seeing distinct brands in complementary product categories striking up alliances," says Jerry VanderMarel. "The benefits can include amortization of back-office and administrative costs, complementary marketing programs, complementary and mutually beneficial manufacturing and/or engineering skills, and the pooling of senior management resources. This initiative with Sonic Frontiers will permit all these efficiencies to be explored to the betterment of both organizations."

Bill VanderMarel, Paradigm's director of sales and marketing and Jerry VanderMarel's brother, agrees, adding that "we will operate these both as separate companies, combining resources where it makes sense. We're not prepared, under Paradigm's name, to bring out a line of electronics since we are thought of as a speaker company. It makes more sense to keep our product categories the same and create new electronics under the Sonic Frontiers brand."

He also explained that Paradigm has two accomplished digital hardware and software engineers on staff at the Paradigm Research Center, Peter Schuck and Marc Bonneville, who will be made available to SFI for design work. In addition, Sonic Frontiers will be utilizing Paradigm's extensive in-house manufacturing facilities.

While SFI continues to develop two-channel products (within both the Sonic Frontiers and Anthem brands), the new alliance is expected to provide SFI with an opportunity to continue developing home-theater products, with an initial roll-out in late fall. These will include DVD players, surround-sound proces-

sors/preamps, receivers, amplifiers, and video enhancement components.

Also from the announcement: "SFI will continue to be located in Sonic Frontiers' current manufacturing facility, and all key Sonic Frontiers management personnel will be retained to take on equivalent roles within SFI. Sonic Frontiers' president Chris Johnson and vice president of sales and marketing Chris Jensen, will form the senior management team of SFI. Paradigm's senior management role will be strategic, with more daily interaction in the areas of operations, administration, and product development."

Maria DiTomaso, Sonic Frontiers' North American sales manager, said the transition will be painless for dealers: "Sonic Frontiers and Anthem dealers should note that all new programs and price structures, as set out in their Dealer Business Guide, continue to remain in effect. It's business as usual."

In summing up, Chris Johnson commented that "last year was very 'interesting'—especially with the situation in Asia. Getting this deal done was a very important step for the company."

UNITED STATES

Shannon Dickson

The first evening of HI-FI '98 last June, I paid a brief but informative visit to the newly formed Digital Axiom Corporation, whose acronym is, appropriately, DAC. Headquartered in Garden Grove just outside of L.A., DAC was formed by principals Kevin Halverson of Muse Electronics, Jeff Kalt, and Michael Nadolny as a "solution provider" for high-bit-rate digital audio. Specifically, DAC's mission is to facilitate the transition for both hardware vendors and

software providers to DVD-based high-resolution audio and video formats.

DAC offers two basic products to hardware manufacturers. First is their 13W3-I²S interface transmitter and receiver modules for ultra-low-jitter, high-bandwidth digital transmission from transports to outboard processors. This interface, originally developed for the Advanced Audio Disc group, is based on the readily available 13W3 cable and connector and is now being offered to all interested parties. A key feature of DAC's hi-rez interface is their proprietary encryption/decryption algorithm, which will allow legal playback of any DVD media protected by the Content Scrambling System (CSS). In other words, the system provides a very low-jitter—and fully legal—method of transmitting encrypted DVD data "out of the box." Since the new DVD-Audio specification will require just such a method for two-box players, DAC provides a ready solution that satisfies the more stringent jitter-performance demands of the higher-resolution formats while meeting the data-protection concerns of the content providers.

The second hardware offering from DAC is a fully modular, encapsulated digital filter board based on a high-speed DSP engine capable of 44.1kHz, 48kHz, 88.2kHz, and 96kHz sampling. By offering the new interface and 96kHz modular filter, Digital Axiom feels that current producers of 20-bit processors will be able to upgrade with the least expenditure of precious R&D time.

For the software vendor, DAC offers an array of services including A/D conversion (or capture) on a topflight 24-bit/96kHz system, and full disc authoring and premastering of Advanced Audio

Calendar

Hellenic Center, 2124 Cheshire Bridge Road NE, Atlanta. For more information, contact Chuck Bruce at (404) 876-5659 or www.mindspring.com/~chucksaudio.

● Saturday, October 3, 1–5pm: **Music Audio** will host a presentation of the Revelation and Transcendence lines of loudspeakers by Casey McKee of **Hales Design Group**. For more information, call (404) 252-5360 or visit www.musicaudio.com.

● Sunday, October 18, 1–5pm: **Audio Alternative** (895 Indian Trail Road #15) will host Mark O'Brien of **Rogue Audio** and Mike Vans Evers for an

introduction to the Rogue M-120 monoblocks and a discussion of Vans Evers' Pandora, the "world's first mechanically tunable power cord." Call (770) 931-0606 for reservations.

ILLINOIS

● Thursday, September 24, 5–9pm: **Holm Audio** (450 Ogden Avenue, Lisle) will host Alan Warshaw of **Electrocompaniet** for a display of the company's entire product line. A drawing will be held for an EC12 integrated amplifier worth \$1995. For reservations, call Mike or Albert at (630) 663-1298.

IOWA

● Thursday, October 1, 7pm: **Hawkeye Audio/Video** (401 S. Gilbert Street, Iowa City) will host Geoff Poor of **Balanced Audio Technology**, who will introduce the VK-20 and VK-40, BAT's new solid-state preamplifiers, as well as tube components. For more information, call (319) 337-4878.

● Saturday, October 3, 10am–5pm: **Reference Audio Video** (2306A Spruce Hills Drive, Bettendorf) will host Geoff Poor of **Balanced Audio Technology** for a discussion of BAT's new solid-state preamplifiers, and **Hales Design**

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Discs, DVD movies, and the soon-to-be-released multichannel DVD-Audio format. In addition, DAC will act as a liaison between content providers and disc-replication houses.

DAC's DVD authoring facility is growing daily, with large investments in hardware and software. Keeping up with the demand for new 24-bit Advanced Audio Disc software alone should keep them hopping for the foreseeable future. Interested manufacturers and software producers can contact Digital Axiom Corp. at (702) 367-4372.

JAPAN

Jon Iverson

Another crucial piece of the DVD-Audio puzzle fell into place recently when the DVD Forum's Working Group 4 (WG-4) approved the adoption of Meridian Lossless Packing as the lossless algorithm for DVD-Audio at its August 5 meeting in Tokyo. WG-4 will require official approval from its supervising organizations, the Technical Coordination Group and Steering Committee—considered a formality at this point.

Meridian Lossless Packing (MLP) is a digital audio coding technology developed by Bob Stuart, Peter Craven, and the late Michael Gerzon (see *Stereophile* September '98, p.24). Lossless compression is employed in the MLP scheme to save disc space and transmission bandwidth, in a manner similar to "zipping" and "unzipping" computer files.

Meridian's Bob Stuart has stated that MLP can be easily implemented and will not alter the decoded signal in any way. He emphasizes its "cascadable" quality, meaning that there is no "error accumulation" in multiple generations

of copies. The process requires relatively little computing power: six channels of 24-bit/96kHz audio can be pro-

The DVD Forum's Working Group 4 approved the adoption of Meridian Lossless Packing as the lossless algorithm for DVD-Audio.

cessed by an inexpensive DSP chip, he said, and will offer the added advantage of much longer playing times.

"I believe MLP will be welcomed by all of the music industry, because its high performance is already well-known and field-proven," stated WG-4 chairman Bike H. Suzuki. "MLP fully meets the requirement from the ISC (International Steering Committee, representing the RIAA, RIAJ, and IFPI) with a playing time of 74 or more minutes in all modes of DVD-Audio."

Mr. Suzuki also said that, "at the request of Meridian Audio, MEI (Matsushita Electric Industrial Co.), who has been a leader in the DVD Technology, is going to cooperate with Meridian to implement MLP into the Audio Specifications Ver. 1.0."

Mr. Suzuki said he hopes the v.1.0 specification will be released around the end of September. He noted that "lossless is the last issue before Ver. 1.0 is released. That's why I and other WG-4 members are very glad to settle the lossless issue. The WG-4 have responded to any new requirement from the ISC with the right technical solution."

One other contentious issue facing the WG-4 has been the recent announcements regarding Sony's and Philips' Direct Stream Digital (DSD), a competing high-resolution audio format. Mr. Suzuki comments that "there is no WG-4 move to approach DSD at the moment. But the WG-4 have repeatedly said that DVD-Audio Specifications reserve space for DSD as an optional audio coding [format]. I understand some people outside the WG-4 say that DVD-Audio and DSD should merge into one format." He added, "Yes, I think a format war should be avoided. However, as far as I am concerned, there is no breakthrough on the matter yet."

DVD-Audio will be among the agenda items at the third US DVD Conference on October 1-2, 1998, in San Francisco. Presented by the DVD Forum, the international association working to develop universal DVD formats, the event will take place at the Grand Peninsula Ballroom at the Hyatt Regency SF Airport.

According to Toshiki Miyaji, chairman of the DVD Format Promotion Office, "DVD Conferences provide an excellent forum for sharing information on the latest advances in DVD technology. The US Conference allows the DVD Forum to explain recent developments to the whole market, and to promote the exchange of views on formats and technology among participants." There will also be displays and demonstrations of DVD products and technologies. More information can be obtained from www.dvdforum.org.

NETHERLANDS

Peter van Willenswaard

In the March 1998 *Stereophile* (pp.39-41),

Group's Casey McKee, who will present Hales' new Transcendence series. For more information, and to RSVP, call (319) 355-3200.

● Tuesday, October 20: **Audio Video Logic** (3702 Beaver Avenue, Des Moines) will host a seminar put on by guests from **Martin-Logan**. For more information, call (515) 255-2134.

MICHIGAN

● Saturday and Sunday, October 17 and 18, 12-6pm: **Superior Sight & Sound** (6266 Pincroft Drive, West Bloomfield) and Tom Bohlander of **Wisdom**

Audio will demonstrate Wisdom's Adrenaline planar line-source loudspeakers. For more information, and to RSVP, call (248) 626-2780.

NEW JERSEY

Audio Nexus (33 Union Place, second floor, Summit) is hosting the following seminars from 6 to 9pm. Refreshments will be served. For more information, call (908) 277-0333.

● Thursday, October 15: Richard Vandersteen of **Vandersteen Audio** will demonstrate his flagship speaker, the Model 5.

● Thursday, October 22: Albert Von Schweikert of **Von Schweikert Research** will demonstrate his new speakers, the VR-4 Gen.2 and VR-2, along with a selection of home-theater products.

● Thursday, October 29: Daniel Sperry of **Enlightened Audio Design** will demonstrate the Theater Master series of home-theater processors.

● Thursday, November 5: Geoffrey Poor of **Balanced Audio Technology** will premiere the new VK-20 and VK-40 solid-state preamplifiers.

● Thursday, November 12: Pat McGinty

Calendar

L the Orchestra

Little compares with the power and majesty of an orchestra. And nothing compares to the sonic picture of the event as stunningly portrayed by the Grande Utopia or its sibling, the Utopia. The technological breakthroughs that made them possible - W sandwich cone laminate, Telar 57 high frequency driver and the luscious exotic hardwood cabinets - are now available in three new Utopias - the Mezzo, the Mini and the Sub Utopia. Smaller in size and scale, these new loudspeakers earn the designation "Utopia" with their natural performance of music. Batons are optional.



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Utopia
\$ 30 000

Grande Utopia
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\$ 13 000

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I reported on the "energy spread" phenomenon postulated by Mike Story of UK digital converter company dCS. The steep brickwall filtering used in 99% of oversampling A/D converters causes ringing at the Nyquist frequency, 22.05kHz. Story's theory is that, although the ringing occurs outside the audible band, in the time domain there is an energy spread around each sample that affects the entire musical signal. Higher sampling frequencies considerably narrow this energy spread, which is one of the main reasons Story thinks higher sampling rates sound better.

At last May's AES Convention in Amsterdam, Julian Dunn¹ presented a somewhat different view: All digital filters come with a ripple in the passband (audio band) amplitude-*vs*-frequency curve. To know what this ripple in the frequency response means in the time domain, you must perform a Fourier transform. Doing that reveals a pre- and a post-echo symmetrically positioned around the sample itself. The spacing of these echoes is typically $\pm 0.3\text{ms}$ in 48kHz digital audio (but far worse in 44.1kHz, if you still want the 22kHz passband Dunn used in his 48kHz examples). The amplitude of the echoes depends on the amplitude of the ripple, and can be as high as -70dB for a 0.06% ripple. In Dunn's opinion, the skirtlike energy spread Story pointed at occurs only at and above 22.05kHz, but the discrete pre- and post-echoes linked to each sample could make their influence felt across the entire audible band. Fig.1 shows a comparison of the theoretical results for the two hypotheses: the dot-

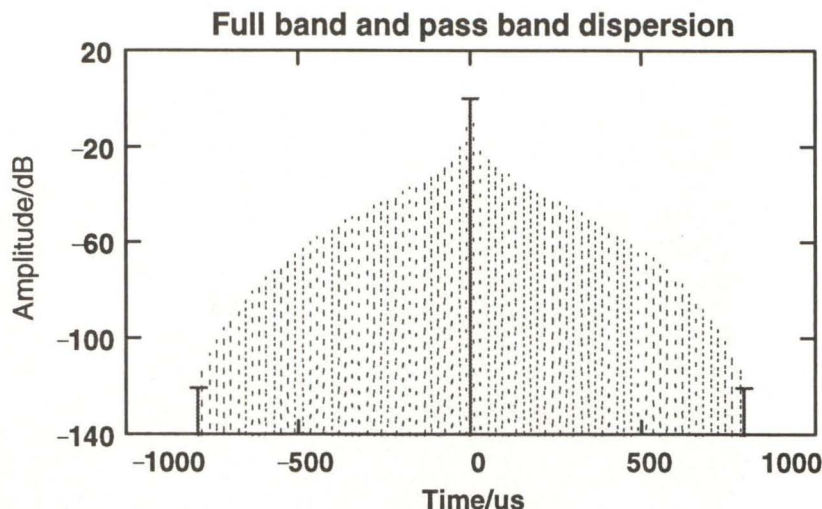


Fig.1 Energy dispersion according to Story (dotted) and Dunn (solid).

ted vertical lines show Story's postulated $\sin x/x$ energy spread; the discrete solid vertical lines show Dunn's pre- and post echoes.² "Full band" means including the transition band (around 22.05kHz, where the filter response dives from 0 to -120dB); "passband" means the audio band, say to 20kHz.³

The nice thing about higher sampling rates like 96kHz or 192kHz is that they allow us to place the echoes much closer to the sample, probably reducing the

echoes' audibility. Dunn provides examples of this in his paper, "Anti-Alias and Anti-Imaging Filtering: The Benefits of 96kHz Sampling Rate Formats for those who cannot hear above 20kHz" (AES Preprint 4734).

With the new high-rate sampling schemes, many manufacturers will be tempted to increase the audio bandwidth to the maximum possible—to, for example, 48kHz in 96kHz-sampled digital audio. Now, dCS and Dunn have shown clearly that that is not the way to go; that it is wiser to sacrifice some bandwidth (eg, 30kHz instead of 48kHz) and use the resulting wider transition band for gentler digital filtering.⁴

2 The introduction of pre- and post-echoes when a digital signal is bandlimited, referred to as "dispersion," was postulated by Roger Lagadec and Thomas Stockham almost 15 years ago ("Dispersive Models for A-to-D and D-to-A Conversion Systems," AES preprint 2097, presented at the 75th AES Convention, Paris, March 1984), but I can't remember anyone since then pointing to it as a possible reason for audible degradation.

—JA

3 My Dutch colleague Eelco Grimm has confirmed Dunn's predictions using an Audio Precision Two. Once the energy at 22.05kHz was filtered out, pre- and post-echoes appeared that had hitherto been hidden from view by the 22.05kHz energy "skirt."

4 Wadia has been doing this for years, deliberately limiting reproduction bandwidth in their CD players and D/A processors to 20kHz (-2dB) instead of 22kHz for reasons of sound quality, but the theoretical foundation given by Wadia has always been in terms of time-domain behavior.

1 Though Dunn recently left PrismSound to form his own company, Nanophon, he is still working on the Prism converter range.

of Meadowlark Audio will demonstrate the company's loudspeakers, including the new Vireo monitor.

● Thursday, November 19: Scott Davenport of Kimber Kable will talk about high-end cables, particularly the Select Series. He also will be giving away two KS-1010 interconnects worth \$660.

● Thursday, December 3: Sedrick Harris of Melos Audio Technologies will unveil several new tube products, including the MAT-100 100W triode amplifier, which can be run in either push-pull or single-ended mode.

Audio Connection (615 Bloomfield

Avenue, Verona) is hosting the following speakers starting at 5pm. For more information, and to RSVP, call (201) 239-1799.

● Friday, October 16: Ray Kimber of Kimber Kable, Dennis Had Cary Audio Designs, and a famous boxless-loudspeaker designer mystery guest.

● Thursday, October 22: Mike Moffat of Angstrom.

● Thursday, October 29: Charlie Hansen of Ayre Acoustics.

● Thursday, November 5: Mark O'Brien of Rogue Audio.

● Thursday, November 19: A rep-

resentative from Wadia Digital.

NEW YORK

● Each month: For information on the monthly meetings of *The Musicalaudiophile Society*, *The Audiophile Society*, and *The Gotham Audio Society*, call David Nemzer at (718) 237-1094.

Innovative Audio Video Showrooms (77 Clinton Street, Brooklyn Heights) is hosting the following (catered) seminars. For more information and for reservations, call (212) 634-4444 or check their Web site: www.innovaudio.com. Detailed schedules will be faxed to you.



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Signal to noise ratio unbalanced	≥ 103 dB
Dynamic range balanced	≥ 101 dB
Dynamic range unbalanced	≥ 100 dB
THD 20Hz to 20kHz	0.015%
Separation @ 1kHz balanced	≥ 122 dB
Separation @ 1kHz unbalanced	≥ 118 dB
Laser	GaAlAs
Wow & Flutter	Below Measurable Limits
Output types	Balanced & Unbalanced
Output impedance balanced	50 ohms
Output impedance unbalanced	25 ohms
Output level balanced	6.0V RMS
Output level unbalanced	3.0V RMS
Digital format	S/PDIF
Sampling rate	8x(352.8kHz)
Digital-to-Analog converters	(4) Burr-Brown PCM-1702P 20-bit
Input decoding	Crystal CS8412
Digital Filter	PMD-100 HDCD
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Dimensions Width	17 inches
Dimensions Depth	16 1/2 inches
Weight Net	22 pounds
Weight Packed	25 pounds

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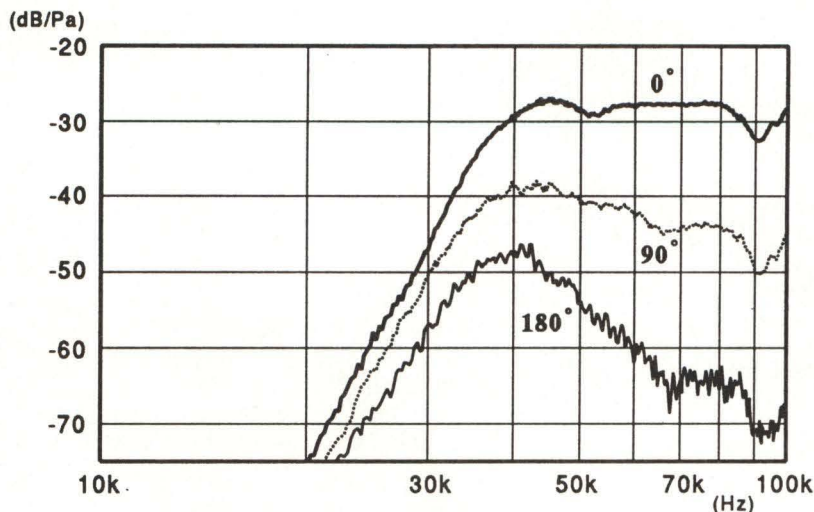


Fig.2 Frequency response of Sony's new 3-way microphone (from top to bottom): on-axis, 90° off-axis, 180° off-axis.

This new gospel seems to have disciples within Crystal Semiconductor (one of the major manufacturers of A/D and D/A converter chips), and in the past year Sony has been experimenting with different filter slopes. Let's hope these companies will succeed in pulling many other manufacturers in the professional and consumer audio worlds onto the right track.

Meanwhile, several recording studios have had a chance to evaluate 24-bit/96kHz recordings—or even 24/192 or DSD—against 16-bit/44kHz. At one of the workshops in Amsterdam, recording engineer Tony Faulkner expressed high praise for the improvement in sound quality using DSD, or 24/96 multibit, or even higher. He added, though, that to his ears 24/96 still sounded slightly digital, and that 24/192 did not. (He immediately stressed, however,

that even 24/96 was such an improvement over 16/44 that he would never, never want to go back.) Designer/engineer George Massenburg confirmed this.

At Sony's request, high-sampling-rate pioneer dCS has developed a DSD converter option (904 A/D and 954 D/A), on display at the dCS booth at AES. I was told it had taken only a month to design and build it. A DSD option for dCS's 572 sample-rate converter was said to be ready by the end of June. Sony itself introduced a 100kHz-bandwidth microphone, a three-way design showing a remarkably regular frequency response, even off-axis (fig.2).

UNITED KINGDOM Paul Messenger

Larry Archibald warned recently of the dangers of placing too much faith in statistical data ("The Final Word," May

'98). Nevertheless, staring at page after page of charts and tables and trying to identify patterns and trends has its own peculiar fascination.

The British Phonographic Institute (BPI) has just published its annual *Statistical Handbook 1998*.¹ It includes some 90 pages of data covering the 1997 music business, UK and worldwide, together with the findings of a UK Music Buyers Survey carried out by the BPI in January and February 1998.

Many of the British statistics are of primarily parochial interest. However, there's one very encouraging sign in a "snapshot" summary of '97 vs '96 hardware sales (by volume, based on GfK Marketing Services data): a 10% rise in hi-fi separate sales compared to a 6% drop for sales of complete audio systems.

British sales of recorded music show some parallels to US figures in that 1997 was 1.7% down from 1996, yet was still the third best year on record (after adjusting for inflation). The long view, going back more than 25 years, shows some dramatic ups and downs within a steady overall rise: 1997's £1.06 billion was almost exactly double the inflation-adjusted figure for 1982. (1982 was just before CD got under way, and was the worst year since 1974.) However, that rosy picture loses some of its glow when rising living standards are taken into account. Spending on recorded music has varied between 0.25% and 0.4% of total consumer spending throughout those 25 years; the 1997 percentage is very similar to that of 1975.

¹ BPI Statistical Handbook, £25, available from BPI Ltd., 25 Saville Row, London W1X 1AA, UK. Tel: (44) (0) 171 287 4422. Fax: (44) (0) 171 287 2252. Web: www.bpi.co.uk.

● Thursday, October 8: David Wilson of **Wilson Audio** will introduce the MAXX loudspeaker and discuss speaker design criteria, materials, and driver technology.

● Thursday and Friday, October 15 and 16: Dr. John Dobb and John McIntosh of **B&W** will introduce the Nautilus 800 series loudspeakers and discuss principles of Nautilus design.

● Friday and Saturday, October 23 and 24: Chris Koster and Chris West of **Naim** will introduce the new CDS Series 2 CD player.

● Thursday and Friday, October 29 and

30: Geoffrey Poor and Victor Khomenko of **Balanced Audio Technology** will introduce the VK-20 and VK-40 solid-state preamplifiers.

● Thursday and Friday, November 5 and 6: A representative from **Linn** will introduce the Sondek CD 12 CD player.

● Friday and Saturday, November 13 and 14: Pat McGinty of **Meadowlark Audio** will introduce the "hot rod" versions of the Kestrel, Shearwater, and Heron loudspeakers, and discuss "what the specs do not tell you."

● Wednesday, Thursday, and Friday, November 18, 19, and 20: Representatives

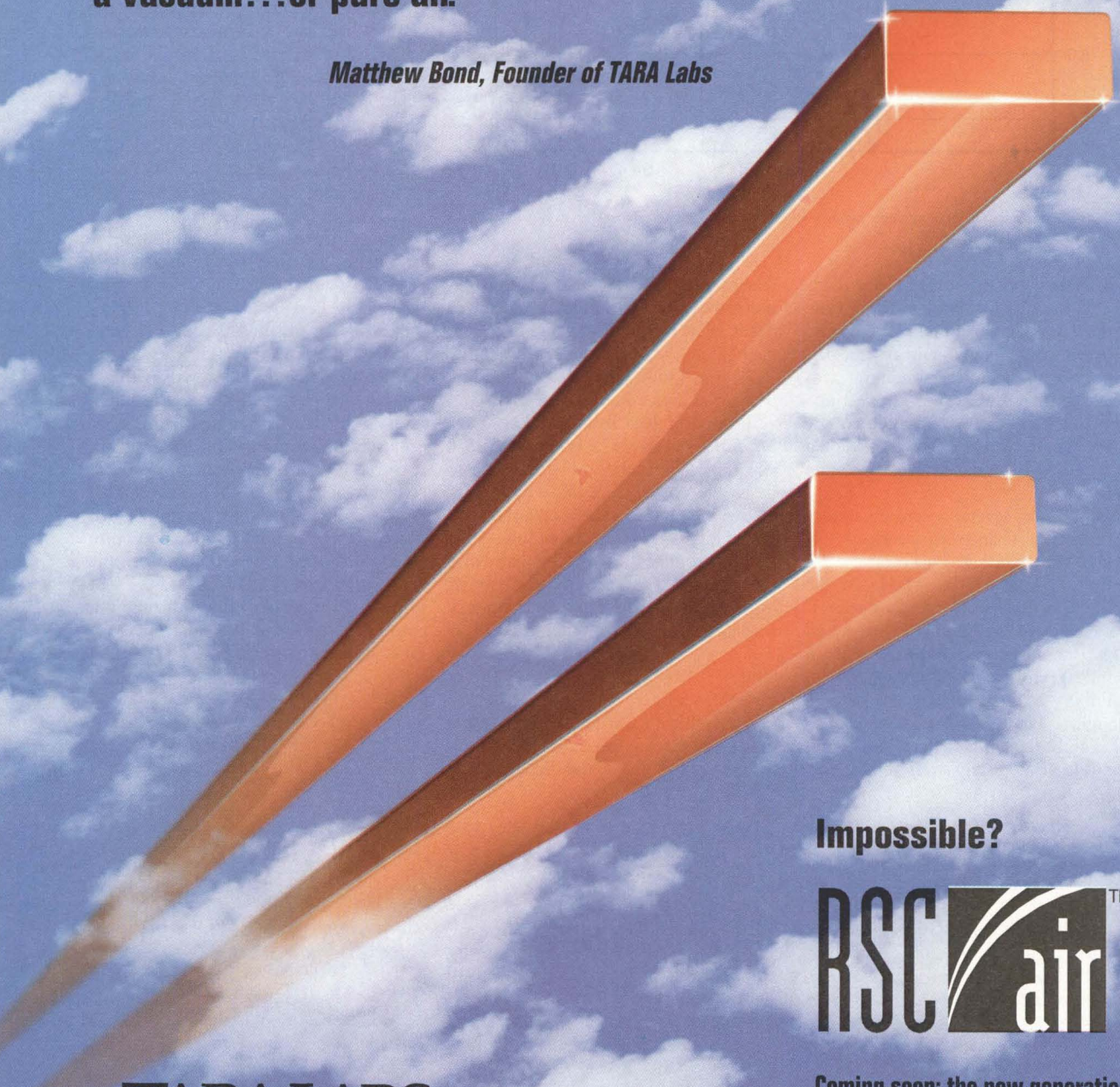
from **Sony Video**, **Fujitsu Video**, **Pioneer Video**, **Faroudja**, **Stewart Filmscreen**, **Proceed by Madrigal**, **Litetouch**, **Crestron**, and others will discuss the future of digital broadcasting, digital software, and digital TV.

OHIO

● Friday, October 9: **Progressive Audio** (1764 North High Street, Columbus) will present a talk by **Fi's** Robert Harley. He will be signing copies of the second edition of his book, *The Complete Guide to High-End Audio*. Call (614) 299-0565 for more information and reservations.

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The international perspectives are intriguing. The US actually features the highest annual album sales per capita—3.5, tying with Denmark and just ahead of the UK's 3.4—but the Norwegians spend the most per capita: more than \$59 US. Must be the climate, I thought, until I noticed Sweden in eighth place (\$42 US) and Finland in 15th (\$25 US). Indeed, no fewer than 12 countries fall into the range of \$30–\$50 US per capita (which makes what I spend on records seem rather extravagant).

There are even some crumbs of comfort for vinyl junkies. The LP is hanging on at a modest level in the US, and even showing slight growth in the UK, Japan, Germany, France, and Spain. The slight downturn in US CD sales in '97 from '96 is mirrored in some other countries—the UK, Switzerland, Australia, and South Korea—but these nations are exceptions to the rule.

The UK music-buyer survey gave often predictable but again interesting findings. That dance and reggae music have negligible appeal to the over-65 age group might come as no surprise, but does lend the other findings some validity. Less obvious findings are that four out of five jazz purchasers are male, and that more than 30% fall into the 55–64 age bracket.

Female purchasers dominate the pop and middle-of-the-road/easy-listening categories, while males lead the way in the rock, dance, and classical sectors. The young favor rock, dance, and reggae, while older buyers prefer classical and MOR.

Such diversity is one of the main strengths of a music business that often seems fragile and fickle. 1997 wasn't a bad year in Britain, but would

have been significantly worse without the contributions of recordings commemorating the death of Diana, Princess of Wales.

More surprisingly, World Cup Football competitions boost classical music sales. Italia '90 started the whole Pavarotti/"Nessun Dorma"/*Turandot* bandwagon rolling, while USA '94 brought The Three Tenors onto center stage. This summer Fauré's *Pavane* made it into the UK Top 20 a fortnight into France '98 because the BBC had cleverly chosen the piece for its theme music.

UNITED KINGDOM

Jon Iverson

News recently coming out of Cambridge, England promises yet another new revolutionary loudspeaker technology following in the footsteps of NXT's flat-panel speakers and ATC's HyperSonic Sound and Stratified Field Technology. Engineering consultant Tony Hooley heads up a team of researchers who have created what they hope will be a breakthrough in small, lightweight, highly accurate-sounding arrays of digitally driven pressure transducers.

According to a story in the July 27 *EE Times*, Hooley believes that his group is the first to demonstrate "proof-of-principle" for a completely digital loudspeaker (see related article). Hooley's new company, 1... Ltd. (One Limited), has named their approach the DLS (digital loudspeaker), which they hope to bring to market in two years. Working prototypes are expected by October, with a final transducer design expected by next year.

The article states that "the technology is based on an array of small transducers, each driven independently by a data-

stream at rates well above audio frequencies. The sound arises out of the additive effect of many transducers, just as a display image is built up by viewing many pixels from a distance. Hooley has calculated that 256 transducers mounted in a panel 12 inches on a side are sufficient to cover the audio spectrum."

"A standard loudspeaker is about 1% efficient," said Hooley, "and audio power amplifiers are 30 to 80% efficient, depending on the configuration. That gives about half a percent efficiency for the total chain. We reckon on 5% to 10% efficiency for the transducers. Pulse amplifiers are 90% efficient, so we could get close to 10% efficiency, or 20 times that of analog systems."

The DLS approach is also based on complex digital signal processing, deploying a binary-to-unary conversion technique that Hooley feels will solve many of the problems associated with using a binary signal. "We're trading complex, almost impossible-to-solve mechanical problems in an analog speaker for complex problems that can be solved with DSP," he said.

Hooley explains that "digital loudspeakers have been discussed in principle for over 10 years, but usually under the assumption of binary encoding." The DLS will use 256-level unary resolution, which Hooley claims is the equivalent of 8-bit binary resolution and can be processed to reproduce 16-bit CD-quality audio.

The company is currently using transducers taken from smoke-alarm detectors, but, along with several other research groups, is developing its own unary-driven pistonlike design that it hopes will deliver efficient, high-end sound. Stay tuned.

Calendar

● Friday through Sunday, October 10–12, 1–5pm: **Archive Audio** (2481 Brentwood Road, Columbus) is hosting Tom Bohlander of **Wisdom Audio** for an audition of his flagship, the Adrenaline line-source/dynamic loudspeaker system. Personal auditions may be scheduled as well. For more information, call (614) 237-5699.

TENNESSEE

● Saturday, October 17, 10am–5pm: **Nicholson's Hi-Fi** (115 19th Avenue South, Nashville) will present Tor Sivertsen of **Conrad-Johnson** for

two seminars, at 11am and 2:30pm, plus demonstrations of the new Premier 16 LS ("ART Jr.") tube preamplifier and new C-J solid-state products. Space is limited; call (615) 327-4312 for reservations.

TEXAS

Dynamic Audio Visual (6692 Southwest Freeway, Houston) will host the following seminars from 2 to 8pm. For more information, call John or Taro at (713) 266-4555.

● Saturday, October 3: Matt Garfein of **Now Hear This** and Karen Richardson

of **Bryston** will present their latest home-theater products.

● Saturday, October 24: Geoff Poor of **Balanced Audio Technology** and Casey McKee of **Hales Design Group** will demonstrate their latest in two-channel stereo and home-theater technology.

● Saturday, November 14: Norman Steinke of **Meridian** will present the Reference 861 surround processor and discuss MLP and DVD.

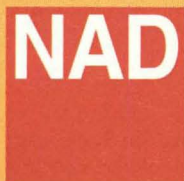
● Thursday, October 22, 7pm: **Krystal Clear Audio-Video** will host Geoff Poor of **Balanced Audio Technology** for a demonstration of the new BAT

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Funny, with all the synthetic effects and gimmicks available on today's A/V receivers - no one is talking about what really counts - delivering the best sound for the dollar. The NAD T770 surround sound receiver's unique design provides everything you need to enjoy a great movie or music. And, as with all NAD products, it maintains a reputation for true value, performance and simplicity.

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UNITED KINGDOM

Paul Messenger

"The Future is Elliptical," according to loudspeaker manufacturer Mordaunt-Short. Peering through my *fin-de-siècle* angst at staggering Asian economies while pondering the imponderables of the Millennium Bug, I couldn't agree more.

Mordaunt-Short is not being philosophical in such elliptical statements, however—they're referring to the main drive-units that are the cornerstones of their new MS800 range of loudspeakers. Whether these are quite as radical or original as M-S implies is debatable—6" by 9" ellipticals are a mainstay of the in-car scene, and Spendor had an elliptically driven 2000-series back in 1996. But there are several reasons why, in today's hi-fi scene, an ellipse makes arguably more sense than a circle.

Whatever the technobabble, styling is the most important ingredient in selling loudspeakers. And consumers want speakers that are as close to invisible as possible—witness the commercial success of three-box sub/sat combos. Aside from such unhappy compromises, the most inexorable trend in speakers in the past 30 years has been toward slim and ever-slimmer designs, which in turn has led toward small and ever-smaller main drivers, alongside the additional acoustic complexities of multiple arrays. The ellipse is consequently an obvious solution for maximizing cone area and minimizing box width, as well as providing a handy USP (unique selling point) at POS (point of sale).

Beyond these obvious marketing benefits, there are also potential technical advantages. In an elliptical driver, the standing-wave modes created between

the middle and the edge of the cone are not concentrated along a single length and its associated frequency, but are spread across a wider portion of the spectrum. Mounted with its maximum diameter vertical, an elliptical driver will have a lateral dispersion similar to that of a circular driver of the same minimum diameter—*ie*, much like that of a typical midrange driver. The driver's air-moving capability, however, will be at least halfway toward that of a circular driver as wide as the elliptical's largest diameter.

Mordaunt-Short has developed two elliptical drive-units, a 130x190mm (5.07" by 7.41") and a 160x240mm (6.24" by 9.36"), the latter allowing the equivalent of an 8" driver to be used in an enclosure just 8" wide. Combining these in different permutations with a new 1" metal-dome tweeter, M-S has come up with the MS812 stand-mount and two floorstanders—the two-way MS814 and the three-way MS815—priced at £200, £300, and £450, respectively. Other salient features include +90dB sensitivity, simple hard-wired crossovers, double-thickness baffles, injection-molded cones/surrounds, and unobstructive baskets molded from a nylon compound.

UNITED STATES

Barry Willis

The DAC performance envelope has been pushed further by Burr-Brown. In August, the Tucson semiconductor company announced the commercial release of its new PCM-1704, an ultra-high-quality digital/analog converter chip boasting a 120dB signal/noise ratio. The new chip supersedes the company's PCM-1702, a DAC found in many high-end products and widely

considered the state of the art.

The '1704—priced at \$12.95 each in OEM quantities of 1000 or more—is a small 20-pin SOIC requiring a $\pm 5V$ supply. It will accept input data words of 20- and 24-bit lengths at sampling frequencies up to 96kHz, and will support 8x oversampling at the highest sampling rate. Its S/N ratio is near the theoretical maximum for all electronic devices, and enables a 112dB dynamic range—a 6dB improvement over the highly regarded PCM-1728. Unlike delta-sigma converters, Burr-Brown's BiCMOS device is "not sensitive to clock jitter," according to audio product marketing manager Mike Centorino. "Sign-magnitude designs are inherently better than delta-sigma types at handling jitter," he said. "It's a different architecture, specifically designed for high-end performance."

Burr-Brown's latest DAC will soon appear in new editions of cutting-edge DVD and CD players, as well as in digital broadcast equipment and studio gear, including mixing consoles and effects processors. Centorino mentioned that the '1704 is currently being evaluated by "at least two dozen" high-end manufacturers, among whom Wadia and Theta Digital will likely be first out of the gate with new products. Wadia's engineering director noted that the laser-trimmed PCM-1704 "demonstrates much higher resolution, better dynamics, and improved bass performance over any other device on the market."

Theta's general manager Jim White agreed, describing the new DAC as "absolutely, without question, the best." In a telephone interview July 24, White mentioned that Theta will soon ship a new digital processor, the DS Pro Generation VI, which will include four

solid-state preamplifiers, including the VK-40. Call (214) 520-7156 for reservations and more information.

● Wednesday, October 21, 7pm: **High Fidelity Inc.** (3300 W. Anderson Lane, Austin) is hosting Geoff Poor of **Balanced Audio Technology** and Casey McKee of **Hales Design Group** for demonstrations of the new BAT solid-state preamplifiers and the Hales Transcendence loudspeakers. Call (512) 454-5833 for details and reservations.

WASHINGTON

Wednesday, October 14, 7:30pm:

The Pacific Audio Society (Congregational Church, 4545 Island Crest Way), and **Premier Audio** of Puyallup are hosting an open house/meeting featuring a discussion of 24-bit/96k. Jeff Kalt of **Resolution Audio** and Mike Hobson of **Classic Records** will demonstrate the new D.A.D. format. For more information, call (253) 445-5414 or e-mail jogarz1@aol.com.

WISCONSIN

● Tuesday, October 13: **Ultra Fidelis** (Milwaukee) is hosting Richard Vandersteen for a demonstration of

the Model 5. Call (414) 774-0234 for details and reservations.

CANADA

● **Robert Silverman** is performing all 32 of Beethoven's piano sonatas at Vancouver's Chan Center for the Performing Arts on October 18, November 22, and December 8. For more information, visit his Web site, www.sloth.com/silverman. To obtain Silverman's *Stereophile* recordings of works by Liszt, Brahms, Schumann, Schubert, Chopin, and Bach, call (800) 766-0020 or visit the *Stereophile* Web site: www.stereophile.com.

NEW

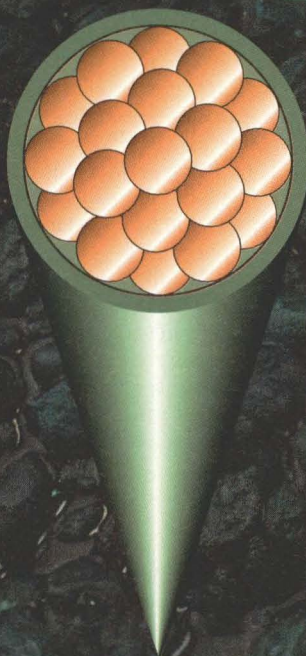
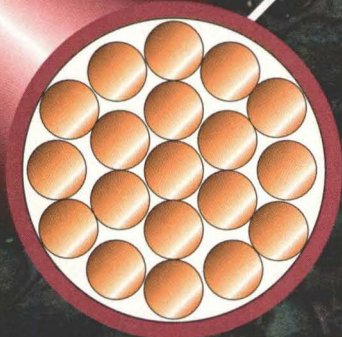
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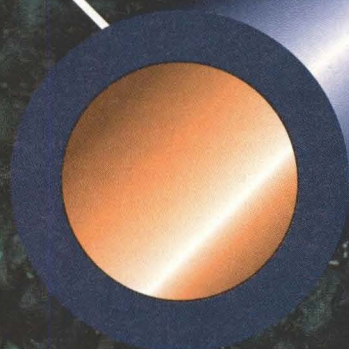
Breakthrough application combining the finest aspects of stranded and solid core conductor technology

CCT

Stranded Wire



Solid Core



Straight Wire has produced award-winning cables for over 15 years. Chosen for personnel and corporate usage by numerous high-end and mainstream companies including Sony ES, JBL Synthesis B&W, Thiel, Klipsch, Aragon & Accurus to name a few. They rely on our no-nonsense designs & engineering, build quality and consistency to allow their components to perform best.

Straight Wire led the way with Air-Space Dielectrics and Symmetrical Coaxial Designs in 1988; Microporous Teflon Tapes and Advanced Coated Coppers in 1989; Hybrid Foam TPR insulation and Coated Silver/Copper Hybrid conductors in 1994. Now Compressed Conductor Technology (CCT) is introduced in 1998 in **CRESCENDO & SERENADE** speaker cables.

SQUEEZE

MORE PERFORMANCE FROM YOUR SYSTEM with CCT from

STRAIGHT WIRE

PCM-1704 DACs "for fully balanced operation." The Gen.VI will retail "in the \$6000 range," White said; he expects the initial production run to number about 500 units. "As soon as the Gen.VI ships, we will begin a program of offering updates to Gen.V owners. Turnaround time should be about one week." Theta's DS Pro Gen.VI should be hitting dealers' shelves this fall.

UNITED KINGDOM

Paul Messenger

Stereophile discovered French loudspeaker specialist JMLab long before I did (see Vol.19 No.5 and Vol.21 No.4), but that's because the company's products were not available in the UK until quite recently. It's not that we Brits are consciously being insular—rather, we've a lot of successful speaker brands of our own, which tends to make things tough for importers.

I therefore had little idea what to expect when invited to Saint-Etienne, in southeast France, to attend the company's "J.A.M. 1998" distributor conference at the end of June. There I encountered one of the most impressive speaker manufacturers I've ever visited, led by its equally impressive engineer/proprietor, Jacques Mahul.

Founded in 1980, JMLab (with sister brand Focal) is now France's number one speaker manufacturer, and is steadily advancing up the European top ten. Sales have increased from 71 million French francs in 1994 to 104.5 million in 1998, and although international sales (which started properly only 10 years ago) are increasing steadily, they're still less than half the total; the potential for growth is substantial.

At the heart of the operation lie the Focal drive-units, used by several leading US high-end speaker builders. I was astonished to see how much work went into producing the PolyKevlar and newer W-type "sandwich" cones used in the drivers in JMLab's upmarket models. Given the amount of hand production work involved, and the difficulty of maintaining sample consistency, I'm not in the least surprised to find that the PolyKevlar sandwich material (filled by glass microballs in an epoxy resin) is being phased out in favor of the newer W-type, which wraps a sheet of special structural foam within layers of resin-impregnated woven glass fiber.

The main purpose of the J.A.M. 1998 gathering was to show us what JMLab was preparing for the 1998/99 season. Their exceedingly ambitious program involves replacing all but three of the

previous (1996 series) models, reducing the total number of models by seven, and bringing overdue rationalization to a previously rather haphazard lineup. All models will now use variations on the theme of the inverted (concave) tweeter dome, which is very much part of the Focal/JMLab identity.

Most interesting from a *Stereophile* perspective is that the Utopia and Grand Utopia models are being retained, and indeed augmented by two new, rather more affordable Utopia designs: the Mezzo and the Mini. Both retain the ongoing models' attractive styling and finish, including the concave time-aligned baffles, as well as their high sensitivities (92.5dB/W and 91.5dB/W, respectively).

**Founded in 1980, JMLab
(with sister brand Focal)
is now France's number
one speaker manufacturer.**

The Mezzo Utopia (£6500), a three-way, port-loaded floorstander, might just be my favorite. It looks exceedingly elegant, and the estimable Andy Singer (of New York's Sound by Singer) and I spent some time comparing it to the standard Utopia via some very classy amplification from small French specialist Lavardin. We pretty much agreed that, although the Mezzo doesn't have quite the punch and weight of its bigger brother, it did sound just that little bit more open, transparent, and delicate.

The Mini Utopia, a port-loaded two-way design with twin main drivers in d'Appolito configuration, is the standard of the range (£3400 plus £750 for matching stands). Its obvious partner is the Sub Utopia powered subwoofer (£1995).

The Utopias are only the iceberg's tip. There are four other ranges, all with home theater as well as stereo hi-fi models, starting from the Tantals and moving up via the Opals and Cobalts to the Electros. The latter leans heavily on the Utopia technology by incorporating W-sandwich cone drivers and Tioxid tweeters in an altogether more affordable, if less elegant, form. Prices go up to £2300.

The 18-year-old JMLab company is at a very interesting stage, making the transition from adolescence to adulthood as it gets its marketing act together, while still showing plenty of energy

and enthusiasm for technical innovation. I left France with the impression that, as far as hi-fi is concerned, it is now every bit as interesting as Britain. I look forward to trying JMLab speakers and Lavardin amplifiers in more familiar surroundings.

Coming so soon after the B&W Nautilus 800 launch ("Industry Update," July and August 1998), it was impossible not to draw comparisons between two brands that seem destined to become rivals in seeking to grab the high ground in high-tech hi-fi loudspeakers. Whereas JMLab puts the emphasis on its "sandwich" driver diaphragms, B&W has perhaps gone further into the acoustic and mechanical environments in which the drivers operate. I'd love to carry out an extended comparison between the two approaches.

UNITED STATES

Barry Willis

Enhanced Compact Discs (ECDs) are one of a host of hybrids and mutations popping up in the garden of digital infotainment. Many ECDs have added biographical text, still pictures, short video clips, and garish graphics to bulk up the content of basic music CDs. Others provide links to fan clubs, to an artist's web site, or to the record label's home page. Most such efforts could be categorized as "art for art's sake"—experimental projects undertaken without any clear idea as to how the finished product will be used. "Value added" is usually the justification, but rarely the result.

Until now. The venerable German music publisher Schott Musik International has teamed up with classical record label Deutsche Grammophon to produce a series of Enhanced CDs with enormous added value for musicians, teachers, music students, and serious hobbyists alike. The new product, dubbed "CD-pluscore," is a music recording that can be played on any normal disc player. But drop it into a computer's CD-ROM drive and the recording's musical score appears onscreen, with access to biographical information, performance data, and musicological analyses.

Users of CD-pluscore will be able to play along with famous musicians, adding their own notations on the score if they wish—notations that are stored as files to be brought up when needed, without altering the musical performance. The score can also be printed out. Text and illustrations provide "a mass of background information for the interested listener, who will discover

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more about the composer and performing artist," according to Schott's informational web site (www.schott-music.com). The company claims that CD-pluscore is the "first successful synthesis of the latest computer technology" with high-quality sound "that will satisfy the most demanding audiophile."

The project has been in development for almost a year. The first disc of the series was released in April, a live recording from 1997 of pianist Maurizio Pollini performing three Beethoven piano sonatas, Opp.22, 26, and 53. The score was synchronized to the performance by hand, bar by bar, according to Schott Musik's multimedia division manager Katya Kratzer. She noted that, apart from his phrasing, Pollini did not improvise on the score, or miss any notes during the recording. "It's really amazing how you can synchronize Pollini's playing to the score," she said. His Beethoven CD-pluscore is priced similarly to other DG releases, as will be all future releases in the new format.

Upcoming releases will include embedded MIDI (musical instrument digital interface) files that will let users take a more active role in playing the music. Planned features include the capacity for assigning various parts to MIDI-enabled instruments, or deleting a solo in order to play it oneself, or slowing the tempo of a piece in order to memorize it note by note—an idea that Pollini nixed for his first interactive disc. He didn't want anybody altering his performance.

UNITED STATES

Barry Willis

Too much time with the plug-in drug will make you unhappy and drive you into debt. That's one of the implications in *The Overspent American*, a fascinating book by Professor Juliet B. Schor, the director of the Women's Studies Program at Harvard University and a lecturer in the economics of leisure at Tillburg University. Schor conducted a large-scale study in 1994–95 of American spending and saving habits and correlated the results with other lifestyle factors, television viewing habits in particular. One conclusion: for every hour of television he or she watches, the average American spends more than \$200.

The respondents in her study, who were employees of a large telecommunications company in the southeastern US, watched a weekly average of 11.5 hours of TV—considerably less than the 28 hours weekly of Nielsen "meter" families. Their indebtedness, however, appeared to be closely related to their

TV habits, as has been indicated by other studies. A Merck Family Fund poll conducted in 1995 and referred to by Prof. Schor also revealed a positive link between debt and TV. Of the Merck sample, 56% who described themselves as "heavily in debt" also said they "watch too much TV."

Prof. Schor theorizes—with substantial scientific and anecdotal evidence—that debt as an outgrowth of TV watching arises not so much from viewers' repeated exposure to advertising, but from their attempts to emulate the lavish lifestyles enjoyed by fictional characters in soap operas and prime-time dramas. The more television people watch, the more they tend to believe that ordinary citizens have servants, limousines, and huge houses—on TV, 24-year-old waitresses have expansive lofts and exotic sports cars, not ratty one-room apartments and battered Geo Metros. In addition, folks who watch a lot of TV are more willing to go into debt in pursuit of what they believe is an accurate depiction of normal life—a phenomenon that Schor quantifies in detail. "Sitting in front of the television five extra hours a week (two sitcoms a night) raises your yearly spending by about \$1000," she writes.

Consumers rack up heavy credit-card debt chasing the televised fantasy—or, in academic jargon, "engage in competitive consumption for the purpose of image management." Schor quotes University of Maryland economist Larry Ausubel, who found that consumers greatly underestimate the amount they owe. By his calculations, the \$182 billion in debt accrued by Americans in 1992 was thought by them to be closer to \$70 billion—far less than half of what they actually owed. Almost 50% of consumers always hold unpaid credit-card balances.

Rising expectations equal rising dissatisfaction. Schor mentions that two-thirds of her respondents earning more than \$75,000 annually said they would have to earn 50 to 100% more to "achieve satisfaction." By comparison, only 20% of people with annual incomes of \$30,000 said they would need a similar increase to reach satisfaction. According to a Roper poll, the "dream-fulfilling" level of annual income as imagined by most Americans three years ago was \$102,000—more than twice as high as in 1986. The number would probably be higher still if the poll were taken today.

Contrary to popular conceptions, Schor found a positive correlation with higher education and indebtedness—

the further people have climbed up the educational ladder, the less likely they are to save money. The heaviest shoppers are women with graduate degrees, something she attributes to their "heightened awareness" of the trappings of social status. Those most likely to live within their means and save money are what Schor calls "the millionaires next door"—folks with less formal education who have worked hard building their own businesses, such as a carpenter who becomes a successful custom-home builder. Not surprisingly, the more successful people are with their own businesses, the less time they have for watching TV.

Kids are by far the most voracious viewers. A report in a recent issue of the *Journal of the American Medical Association* claims that children in the US watch 15,000 to 18,000 hours of television between the ages of 2 and 17—as compared to 12,000 hours of school. (During the thousands of hours of viewing, they also witness thousands of televised shootings.) At that viewing rate, if they followed the spending pattern of Prof. Schor's adults, American children would each accumulate well over a million dollars of debt by the time they graduated from high school.

Many medical studies have correlated excessive TV viewing with childhood obesity and adult depression. Certain crime statistics also correlate well with the market penetration of television—larceny and burglary both increased at a corresponding rate following TV's rise in popularity in the 1950s—not to mention the increase in the use of guns.

Perhaps Afghanistan's ruling Taliban militia wasn't entirely misguided in its recent crackdown on the one-eyed monster. In early July, the fundamentalist Islamic junta condemned TV as "a corruption to society" and ordered all residents within its jurisdiction to get rid of TV sets, VCRs, and satellite dishes. Afghans were given 15 days to comply with the order. The no-nonsense Taliban, presumably, hadn't even read Prof. Schor's latest book.

UNITED STATES

Jon Iverson & Barry Willis

It's no secret that Dolby Laboratories doesn't aim its audio compression technologies at the high-end consumer audio market. After all, Dolby excels at finding ways to get maximum performance out of limited-bandwidth environments such as the audio cassette, or the space allotted for 5.1-channel soundtracks on DVDs.

At the Audio for DVD Seminar held

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Fine audio instrument

at company headquarters in San Francisco at the end of June, the folks from Dolby often referred to audiophiles as "them"—as in "us and them." Nonetheless, Dolby seems sympathetic to the concerns of tweaks troubled by any compression schemes being used to squeeze music into small places. The seminar, aimed at industry professionals—recording and mastering engineers, equipment manufacturers, chip and software designers, and members of the press—emphasized the need for consistent and high-quality studio environments for those involved in creating audio for DVD.

The first day of the session offered a broad overview of DVD, home theater, and multichannel sound, as well as a history of Dolby's involvement with multichannel audio. Day two was an in-depth technical exploration of DVD multichannel audio encoding and decoding techniques. Those who attended both days received certificates of completion.

Beginning his presentation, Dolby technology strategy director Roger Dressler mentioned DVD-Audio and the Sony/Philips Super Audio CD (SACD), and acknowledged that the two approaches are "noncompatible, at present." He said that Dolby is collaborating with the DVD Forum Working Group 4, who were intending to have "Version 1.0" of the DVD-Audio spec ready around the time you read these words.

Dolby digital technology licensing manager Ramzi Haidamus then announced the company's agreement with Meridian in which Dolby will license Meridian's MLP lossless-compression technology to manufacturers worldwide. "Even saying the word 'compression' causes an allergic reaction among some purists," he said. "MLP, which gives you back exactly what you put in, should satisfy everyone." [As you can read earlier in this issue's "Update," *WG-4* has recommended that MLP be incorporated into the DVD-Audio specification. —Ed.] Ramzi pointed out that working with Meridian on MLP is only the second time in history that Dolby has gone outside of the company for technology, the first time being for the HX Pro process from Bang & Olufsen, which varies a cassette recorder's bias level according to the high-frequency content of the signal being recorded.

While still on the topic of DVD-Audio, he stated that Dolby doesn't feel people need more than 20-bit resolution in a digital audio signal, since they've concluded that folks can't hear any difference when going to higher bit rates. "If the audio community thinks it needs 24 bits, well, good luck."

The next hour or so was spent reviewing Dolby's perceptual-coding technologies for reducing data in digital-audio storage systems. The idea is to throw out the information that is masked by the louder or more noticeable portions of the signal, thus saving up to 91% of the space needed to encode a multichannel audio recording. The current consumer implementation of this technique is Dolby Digital (DD), which is being promoted as both the 5.1 surround format for DVD-Video and HDTV, and also as a multichannel format for surround-sound music on DVD discs. Dolby likes to point out that, unlike the proposed DVD-Audio spec, DD 5.1 audio for music releases is compatible with existing DVD players. Audiophiles like to point out that, to them, it sounds worse than CD.

Another drawback, however, to encoding and decoding a digital audio stream is that decoders exhibit latency—a slight delay of 5 to 25 milliseconds to receive and decode the audio data. The result: a decoded signal doesn't work well in an interactive environment in which the user is triggering sounds in real time, such as in a computer-based game.

A series of slides was used to demonstrate how a recording/mixing studio might want to set up its 5.1 surround system. The preferred surround speaker type, according to Dolby, is a direct radiator (or monopole) placed on either side of and slightly behind the engineer. Dolby feels that this is the best method for "properly determining directional information." Next up were dipole surrounds, although Dolby notes that this makes it "more difficult to determine directional cues." Tripole surround speakers were suggested as a compromise between mono and dipoles because tripoles are less dependent on room layout and can provide decent directional information. Equal amplifier power is recommended for all channels.

Also noted for engineers in the audience were the time delays that digital processing can introduce into a digitally based recording studio. Each digital processor needs a little time to add its effect (equalization, reverb, panning, etc.), which can seriously alter arrival times of a signal from the various channels, getting them out of sync. The trick here is to check your mixes not only in 5.1 or stereo modes, but also in mono before encoding to DD. An example was given of a Madonna single that used a digital process that rendered it so unlistenable on mono radios (okay, it was probably unlistenable on even a

good stereo system) that the BBC in the UK banned it from broadcast.

We were treated to several listening tests, both in Dolby's state-of-the-art, theater-sized presentation studio, and in smaller rooms designed to more closely resemble a consumer listening environment. Recordings were used to demonstrate how surround channels can place a listener inside a venue, and "moves" the listener forward or back in the hall. While this was interesting as an effect, one member of the audience stated that the original stereo presentation was still his favorite. We have to agree for now, but these are the early days of the format—it'll be interesting to see how others exploit it.

One more interesting fact from the seminar: Dolby estimates that there are 34 million surround decoders in the market, but that only half of them are hooked up!

UNITED KINGDOM Paul Messenger

Acoustic Energy is going back to its roots in pro-audio monitor loudspeakers. The relatively inexpensive domestic AE200 is already achieving good sales to recording studios for its nearfield monitoring capabilities. AE hopes to consolidate this situation with its new, upmarket (£1700), specifically pro-oriented AE-2PRO desktop monitor, which was very well received at its Abbey Road launch in June '98.

Loosely based on the long-established, twin-5"-driver AE2, the AE-2PRO is a considerable reworking of the original to satisfy professional requirements for long-term, fatigue-free, high-level monitoring. The two 5" metal-cone main drivers are placed either side of a vertical three-tweeter array and the bass output reinforced by two good-sized rear ports aligned specifically for desktop siting, all to give a punchy phase-accurate output and to avoid the "overblown" tendencies of larger monitors. The aluminum cones are mounted directly onto the voice-coils, aiding in heat dissipation.

The speaker's T3 tweeter breaks with AE tradition in using a soft rather than a metal dome, and the array is organized so that the top and bottom units operate in parallel from 1.5kHz to 8kHz, above which point the central T3 takes over for improved dispersion at very high frequencies. The combination of triple array, frequency subdivision, and elaborate heatsinking ensures high power handling, reliability, and consistency when the speaker is used for long periods at high levels. ☒

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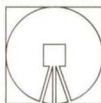
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J', as some French hi-fi critics like to say. "I had a thunderclap."

This time it was literally true.

Early last summer, lightning struck the transformer on the street outside our house and the lights went out with a terrible bang. Fortunately, I had disconnected the two hi-fi systems but not our home-theater setup—Marina's *seestem*, in which I'd installed the Bryston B-60 integrated amplifier that I wrote about in May 1997 (Vol.20 No.5). I had also neglected to disconnect the phone line to my computer modem.

Four hours later—around 3am—the power company brought our electricity back on line. I quickly surveyed the damage.

When power came back on to the Bryston B-60, so did the smell of burning silicon. Phew! I quickly flipped the Off switch and heard a horrendous bang through the speakers. *Encore un coup de foudre*. Yet another thunderclap! *Mon dieu!* I ran upstairs to test my computer.

It was alive—thank goodness—but my modem wouldn't respond.

No sleep now. I phoned Micron Electronics. After taking me through some diagnostic tests, their tech-support guy shrugged his shoulders (I could hear him shrugging over the phone) and said, "Well, I guess your modem got fried."

"Okay. What to do now?"

"No problem," he said. "You're still under warranty. We'll ship you a new modem tomorrow, UPS Blue."

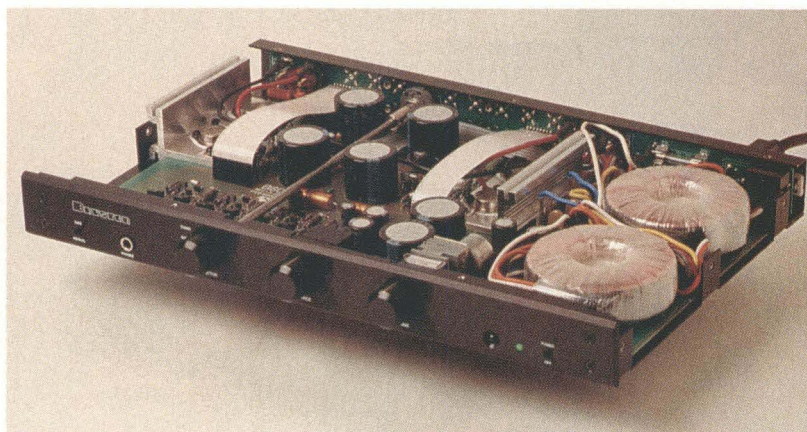
Now *that's* customer service. Would I have the same luck with Bryston?

Next day, after catching up on some Zs, I phoned Bryston, got a return authorization number, and shipped the electrocuted B-60 to their service center in Vermont.

Under warranty? Not really. But Bryston fixed the amplifier anyway. I suspect they'd do the same for you, in a similar situation.

I installed the Musical Fidelity X-A1 in Marina's *seestem* as a stopgap. When the Bryston returned, I decided to try it out again in the living room—with several speakers from B&W, including the CDM1 Special Edition.

Wow!



Bryston B-60 integrated amplifier

Lightning must be good for the amp. For whatever reason, it sounded better than ever. I suspect Marina's steady diet of TV and Russian pop music had more to do with it.

The lightning had subjected the Bryston to the ultimate burn-in. It sounded richer, fuller, better than ever.

But the lightning had subjected the Bryston to the ultimate burn-in. The sound was now richer, fuller than I remembered—with more body, more bloom in the midrange, and even more sweetly extended highs. Resolution was remarkable. I say "was"—Marina didn't let me hold onto *her* amp for long.

Not such a hot idea

It's probably *not* such a hot idea to leave equipment on all the time. While you're home, it's okay to leave your system on overnight when you know you'll be listening again first thing in the morning. But leave home and leave the system on? Uh-uh. In summer, I not only turn all systems off, I pull their plugs.

Besides, many amps don't *need* to be left on all the time to sound their best. (CD players and digital processors are

another matter, alas.) The Bryston B-60 requires only an hour or so of warm-up to sound its best.

Once it's broken in, that is. Like a lot of gear, the Bryston seems to need several months of break-in.

That's tough on reviewers, because we may never get to hear how good a piece of equipment actually is. We've already sent it back and are listening to the next product.

Lonnie Brownell best described the B-60 in the July '98 issue when he called it "stealth high-end." As in *Stealth Bomber*. As he noted, you won't impress your friends. The amp's not big enough—only 2½" high, it's almost invisible. Nor does it cost enough to cause pain: \$1795 with remote, \$1495 without. Call me hair-shirt (or hare-brained), but I think the remoteless version is more attuned to the B-60's spirit of frugality. (Lonnie disagrees.)

What really riles me are these so-called "experts" who pop up now and then in places like the *New York Times* or the *Wall Street Journal* to advise the public that one needs to spend at least \$10k for a good stereo system. The public, perhaps quite wisely, opts out.

Truth is, you could build a splendid stereo system around the B-60 for under \$5k, maybe under \$4k. Put a Rega Planet CD player in your solar system and add a well-chosen pair of loudspeakers, like the Meadowlark Kestrel or B&W CDM 1 Special Edition. Out of this world!

D Y N A M I C R A N G E

Creating a new balance of power in high-end audio

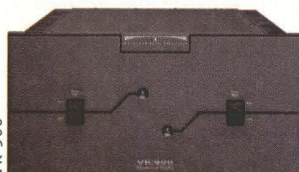
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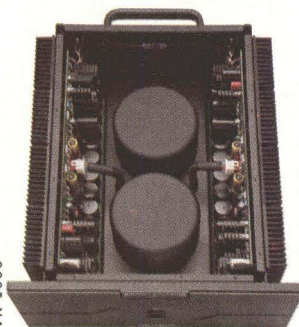
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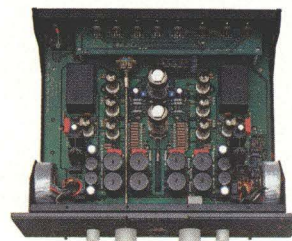
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Can you do better than the Bryston B-60?

You can do different.

The Conrad-Johnson CAV50, which I'll get to in a moment, sure sounds different. The new C-J integrated has the virtues of a classic piece of tubed gear *vs* the Bryston's classic solid-state virtues.

Other solid-state integrations may sound different too. But what of it? Please don't forget that, as critics, we writers are always describing differences. That's good, but sometimes the differences get overblown.

The LFD Mistral that I wrote about in September and the Plinius 2100i that I will be writing about seem to have more light and life. I find they have a somewhat more airy, more open, more immediate sound. But the differences are subtle. Maybe the Bryston is a little less insistent and, over the long term, easier to listen to.

Or take the Jadis Orchestra—a much better deal now that its price has been lowered to \$2495. Now *here's* an integrated with a distinctive sound: explosively dynamic, exuberantly full-bodied. Is the Jadis Orchestra right and the Conrad-Johnson CAV50 wrong?

With a fine piece of gear, the kinds of differences that seem to matter so much to reviewers may not matter much to you. The important thing is to find a good piece of gear that you like.

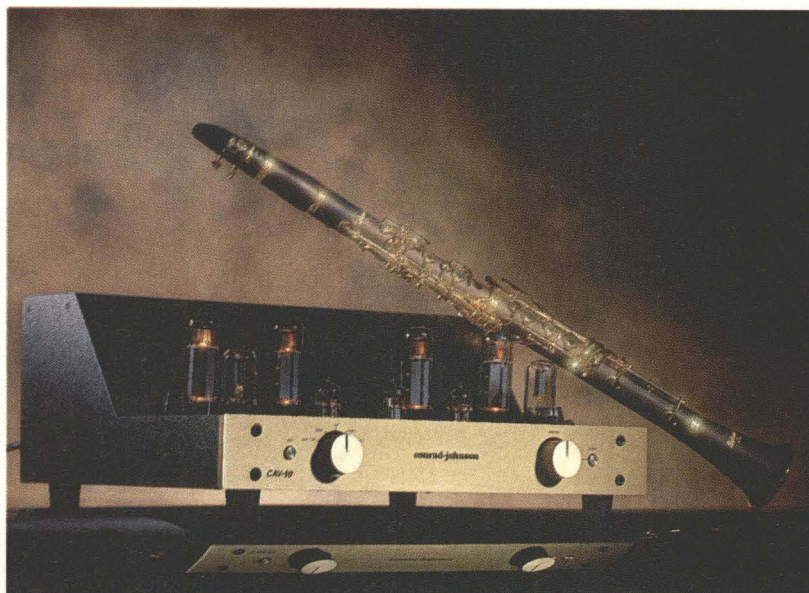
Then keep it.

Inconspicuous consumption

I'm big on the Bryston B-60 not because of any one thing, but because of its combination of attributes. Build quality. Twenty-year warranty from a company that will likely be around for at least another...oh, 50 years. Resolution—hard to beat at any price. Small size. Absence of frivolous features. Most of all, the Bryston represents inconspicuous consumption.

When I'd auditioned the Bryston earlier, I'd had little time to listen to its line amp except through headphones, where it acquitted itself very well indeed. This time I ran a pair of Kimber Silver Streak interconnects from the B-60's preamp out, bypassed the power-amp section, and used the B-60 as a line stage to drive a pair of Cary 2A3 Signature monoblocks.

As you know, I'm not so keen on most active preamps—or line stages, as phonoless preamps are now usually called. The solid-state models tend to give the sound an electronic glare, while tubed units often muddy the sound and muffle the bass. Generally speaking, I think you need to spend around \$2000



Conrad-Johnson CAV50

or more to get a good active line stage. It's enough to make even an active guy like me go passive.

But what's this?

The remoteless Bryston B-60 costs \$1495 and is as good as any \$2000 solid-state line stage I've heard. No electronic

As for the sound quality, ask Marina. "I want my Bryston back," she said.

Conrad-Johnson CAV50

Sometimes Sam isn't always first.

Martin Colloms beat me to the punch with a full-scale review of the Conrad-Johnson CAV50 integrated in the August issue (Vol.21 No.8).

The C-J makes a fascinating contrast with the Bryston—one of the finest tubed integrated amplifiers *vs* one of the best solid-state.

Look at the sizes. While the Bryston is just 2½" high, the C-J is 7" high. You can't slide it into a tight space the way you can the Bryston—you need to give it good ventilation, on a table top or the top shelf of an equipment rack.

The power rating is about the same: 45Wpc into 8 ohms for the C-J, 60Wpc into 8 ohms for the Bryston. But there's a \$1000 disparity in price. That's tubes—they're more expensive than solid-state. No remote option is available for the C-J, so this isn't for the couch-potato crowd. And there's no headphone jack—a somewhat more serious omission.

Two Con-Johns conjoined

The CAV50 is nonetheless a bargain.

Consider that the CAV50 is essentially Conrad-Johnson's MV55 power amp perched atop a PV10 A/L line-stage preamp. Together, the two C-J separates retail for \$3290. You save \$800 by buying the two Con-Johns conjoined.

Actually, you save more—you won't need to shell out \$100 or more for an interconnect cable from preamp to power amp. All told, you could clip nearly a kilo-

**I'm big on the
Bryston B-60
most of all because
it represents
inconspicuous
consumption.**

glare. No murky sound. No muddy bass. Clean, quick transients. Superb clarity.

This, of course, is why the B-60 is such a killer with cans. (That's British for headphones.) 'Phones are driven directly off the line stage: there's enough output, and the power-amp section doesn't come into play. Simpler is better. The result is sonic purity and headphone amplification that are as good as any I've heard from solid-state. (I'm using the Sennheiser HD600 and Grado RS-1 'phones as references—very revealing.)

Even if you listen with headphones once in a while—late at night, for instance—you should put the Bryston at the top of your list for auditioning. Many otherwise fine integrated amps lack a jack for phones.

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buck off the price of your system, with no sonic sacrifice. Or take the money saved and put it into better speakers.

By combining the two units you lose nothing but flexibility. If you like the sound of the C-J MV55, you could use any number of different manufacturers' preamps. But your incremental cost for the CAV50 (over the MV55) is just \$500. And you're sure not going to find a good active line stage, tubed or solid-state, for \$500. That makes the CAV50 a compelling buy.

It looks nice, too, in the typical Conrad-Johnson way—rather like a tubed integrated amp of yore. As in yore father's day. But C-J has avoided the squared-off look by sloping the tube cage back. If you take off the tube cage (with only four spring-loaded screws, this is easy to do), you'll see that the transformer cover is sloped back too, giving the CAV50 an elegant look that is both classic and modern at the same time. I find it very attractive.

And the sound? Classic C-J.

Here's what I mean. You turn the damned thing on—it takes no more than half an hour or so to warm up—sit back, and relax. At least, I do. So many audio products have a way of putting you on edge: all that resolution, all that detail, all those extended highs. But like other Conrad-Johnson gear, the CAV50 takes you off edge. You enjoy the C-J: the harmonic richness, the sense of body to the sound, the palpable presence of the performers. At least, I enjoy. You may be one of those audiophiles who are into pain.

Bass is one area where solid-state amplifiers like the Bryston beat out the Conrad-Johnson. Sorry, the bass is a little untidy. That's your classic tube amp, particularly one that uses EL34 output tubes, as does the CAV50: two per side, four altogether. The highs, too, seem slightly rolled off compared to the Bryston. As for detail—resolution—Martin Colloms hit this one on the head: There's probably more here than

first meets the ear. More detail. More resolution. But in no way does this detail call attention to itself. With C-J, you always hear the music first, the resolution second. That's why C-J is C-J.

Over the past few years I've recommended the MV55 to a number of friends and acquaintances—music lovers, not audiophiles. People like Joe Eckstein of Berkshire Record Outlet have pur-

The Conrad-Johnson CAV50 is classic C-J: You turn the damned thing on, sit back, and relax.

chased the MV55 on my recommendation and love it. Not only that, they keep telling me how much they enjoy the sound. The CAV50 should appeal to the same crowd—if it is a crowd.

How about SET?

How about single-ended triode? (*I knew* you were going to ask.)

That's another way to go. But single-ended triode amps tend to be even more expensive than push-pull tube amps like the C-J gear. You get less power for more money. As former economists, Lew Johnson and Bill Conrad say they're not about to take that tack. In general, too, you also get less ability to drive low-impedance or difficult speaker loads with SET amps.

You do tend to get more immediacy with SET, however—more illusion of live. Plus quicker transient response and, paradoxically, better microdynamics—up to the point where the SET amp poops out, that is.

But, as with the Bryston B-60, the sound of the Conrad-Johnson CAV50 is so good, so convincing *on its own terms*, that you may not care. In fact, after you've bought either amp, you *shouldn't* care.

Come to think of it, I don't recall the Conrad-Johnson MV55 power amplifier sounding as good as the CAV50. Possibly I didn't match it with the ideal line stage—or interconnect. More likely I'm hearing what happens when you integrate a line stage and preamp: the sound becomes more... well, integrated.

I know that's being facile, but I don't know of any other word. The best integrated amps just sound integrated—together—in a way that separates usually don't quite manage.

Manufacturers point out that with a

separate preamp and power amp, the two chassis are at different ground potentials. Maybe that's why separates tend to sound a little dis-integrated.

There's more going on. In a well-designed integrated, the line stage (sometimes the line controller is passive) and the power-amp stage are perfectly matched to one another, and no interconnect is needed. No matter how good the interconnect, there may be signal loss, or noise may be introduced through the connectors.

For whatever reasons, *all* the best integrateds sound very, very together in a way that separates usually do not. Your *seestem* functions more like a *seestem*—oops, system. (That's the problem when you tease someone with a foreign accent. You begin to acquire the accent yourself.)

The CAV50 has a pair of preamp-out jacks, so I tried it briefly as a line stage only, again using the Cary 2A3 monoblocks. The sound was less neutral, slightly less resolving than the line stage of the B-60. But the sound had a richer, riper harmonic presentation. It was also quite dynamic, as a good active line stage should be.

Big bang for little bucks

But no one is likely to buy the CAV50 to use as a line stage. What you could do, however, is buy an MV55 and bi-amp. Run the CAV50 into your tweeters, an MV55 into your woofers. (I know—a solid-state amp might seem better into your woofers because of that greater control. But mixing amps—especially different types of amps—never seems to work well, in my experience.)

Bi-amping could be the way to go with speakers that demand more power than 45Wpc. If you're using the CAV50 alone, you'll want to choose reasonably sensitive speakers. And the CAV50, like the Bryston B-60 and most other small amps, probably works best in a small-to-medium-size room.

The bi-amping route is available to Bryston B-60 users too, by the way; I'd buy a Bryston 2B amp for the bottom end. We're talking big bang for little bucks.

Bi-amping is not a panacea, though. When you add an extra amp, you are dis-integrating. The sound may not seem quite as seamless as with an integrated alone. Sorry.

Both the Bryston B-60 and the Conrad-Johnson CAV50 are superb integrateds, but in different ways. I won't make up your mind for you. In typical Tellig fashion, I could live quite happily with either.

So, I suspect, could you. 

Contacts

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Conrad-Johnson, 2733 Merrilee Drive, Fairfax, VA 22031-4407. Tel: (703) 698-8581. Fax: (703) 560-5360. cjdsgn@erols.com

—Sam Tellig

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20

YEARS OF ATTENTION TO DETAIL

Analog Corner

Michael Fremer



Are you old enough to remember when New York State, much of the rest of the Northeast, and parts of Canada were blacked out by a power failure on November 19th, 1965 at 5:18pm? I was in my Phi Sigma Delta frat-house library at Cornell, HO model-car racing—for money. At the flick of the wrong switch, all bets were off for the night. I'll never forget *that*.

Where were you when you heard your first compact disc? I'll never forget where I was: at an early-'80s AES Convention in Los Angeles. It was Roxy Music's *Avalon* played on a refrigerator-sized machine, and the sound was as awful as the technology was brilliant.

I may not have been listening as an industry insider on the playing field of the audio biz, but I wasn't exactly a spectator in the stands, either. I was kind of on the sidelines. You have to at least be on the sidelines to attend an AES demo of the new electronic future.

To hear genuinely foul sound declared not just great but essentially "perfect" was nightmarish, but what to do from the sidelines? Scream? I did. I called friends and warned them "They're coming! They're coming!" like Kevin McCarthy in the original *Invasion of the Body Snatchers*. I wrote hysterical, ineffectual articles about the coming "digital madness" in obscure magazines. I attended the Consumer Electronics Show wearing a cardboard facsimile of a CD (they didn't even have real ones yet) on my chest, on which I'd painted the red ring-and slash "no" symbol.

And I paraded before The Compact Disc Group's table wearing it, behaving like a PETA member camped out at a slaughterhouse. It didn't hurt that a certain PR fox named Leslie Rosen was womaning the booth, but I would have done it had Eleanor Roosevelt been sitting there. Or *Stereo Review's* Ken Pohlmann, for that matter. Especially Ken Pohlmann. Did I tell you that, in a broadcast debate I had with him on the CBS radio network, he declared that he'd "skipped over" the LP era? Now *there's* a genuine music lover.

Well, now I can ask another question: Where were you when you heard your first 24-bit/96kHz DAD disc? Or

Sony's SACD? Those who attended HI-FI '98 will be able to answer "June 1998 in Los Angeles," but soon the rest of you will be able to give your own answer. And I've finally heard 24-bit/96kHz Classic and Chesky DADs in my own system (thanks to Ayre's Charlie Hansen, who lent me a prototype player). Like the blackout and that first CD, it was an experience I'll never forget. As I listened, I thought to myself, "This time you're *on* the playing field. So what do you think? And once you've formed an opinion, what are you going to do about it?"

There are even some who'd be happy with 5.1 channels of Dolby Digital, which throws 90% of the music out—but hey, the average guy can't hear the difference in tests, so it's perfect. After all, what are we, a bunch of elitists?

What I'm going to do is scream again. I think all but the hopelessly analog-addled among you are going to like what you hear. No, I think you'll be *thrilled*. These discs image with solid, palpable, layered three-dimensional focus. They're harmonically rich and dynamically big. Bass is a groin-grabber, not some mealy-stringed blob. DADs sound *much* better than CDs, and I'll take double-blind ABX tests all day, if need be, to prove it to the "Nyquist is God" crowd. I'll be declared a "lucky coin" again, of course, but I've been called worse.

Of course we'll still love, cherish, and prefer listening to our records—that's a different thing—but we'll finally be able to put on a digital disc and get a vinyl-like kick, musically and sonically. New music finally will sound as good as old music—perhaps even better.

Maybe.

Maybe? Yes, because the same people who've made you and me suffer musically for the past 15 years are trying to block our relief! As far as they're concerned, 24-bit/96kHz resolution is a waste of resources, overkill. If we've already got perfection, why bother with something that can't, by definition, make an improvement? Instead, they're proposing to add three more channels of their version of "perfection" to the two they've already stuck us with. Isn't that special?

Don't discount them—cumulatively, they've got the ears of many more listeners than we do. And numbers count big time to the record companies when they're considering supporting a new format.

There are even some who'd be happy with 5.1 channels of Dolby Digital, which throws 90% of the music out—but hey, the average guy can't hear the difference in tests, so it's perfect. After all, what are we, a bunch of elitists?

Well, I'm in the game this time, and the last thing I think I'll do is ride it out in the backfield. The editor of another audio magazine wrote recently that he's not sure if he can hear the difference between 16-bit/44.1kHz audio and 24-bit/96kHz. Mastering engineer Bernie Grundman thinks any guy pulled off the street could hear it, but this editor writes about it as if it was a Jackie Mason routine: "I may have hoid a difference, could be, I might have...but maybe not. I think on Tuesday I hoid something, but Wednesday? Nah! I don't think so. Thoisday? Maybe, it could be I hoid a little thing, but probably not—or maybe I hoid a big thing, I don't remember. I think I better sit there with an ABX box to make sure I'm confused. Mista? Hey, mista? Did you hear something?"

And former NHT head honcho Ken Kantor, a guy I respect greatly for the most part, is even more adamant in that same magazine: If you know Nyquist, you know that 16-bit/44kHz is transparent to the source, is his take. I can't believe he's even taken the time to sit down to listen and compare these DAD discs to the standard CDs.

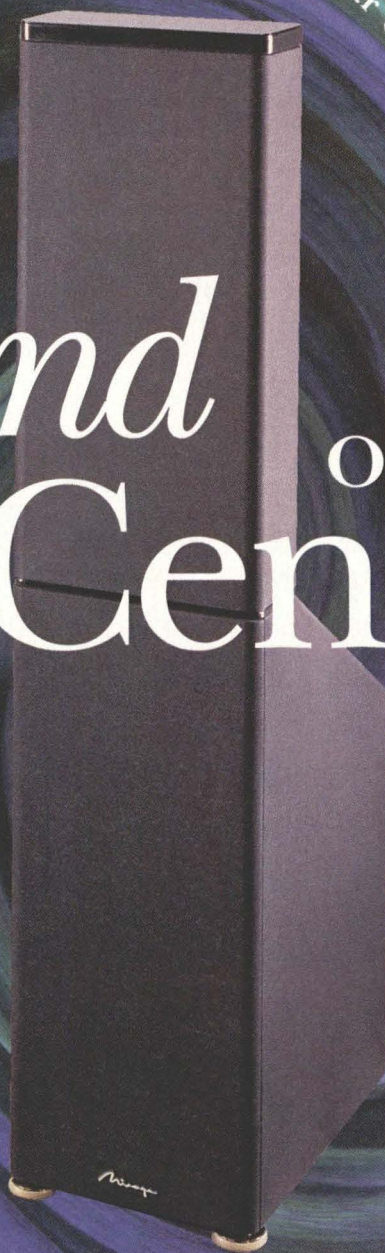
So what do I make of my audition of

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John Lee Hooker's *Mr. Lucky*, comparing CD to Classic Records DAD to digitally sourced import vinyl, in which contest the DAD absolutely humiliated the CD and LP? On well-recorded tracks like "This is Hip," recorded at Ocean Way with Ry Cooder, and "I Cover the Waterfront," with Van Morrison and Booker T, the difference was anything but subtle. And it wasn't the mastering—on the other Classic titles where Bernie Grundman mastered both formats, there were the same differences. In place of the typically diffuse, unfocused CD soundstage, the DVD offered up fixed, rock-solid, focused images—in layers—with deep, tight, dynamic bass. Like good vinyl, but in some ways even better. And in some minor ways, perhaps not as good.

Same thing when I compared Chris Whitley's superb *Dirt Floor*, available as a standard CD from Messenger Records, and as both DAD and 45rpm vinyl from Classic. This comparison was particularly telling because the pristine recording is so revealing. It's a single-point stereo tube-mike job recorded live to two-track analog and produced by Craig Street—just Whitley in a tool shed, playing slide guitar and banjo and singing. The "Thank yous" in the credits include Audio Research's Terry Dorn, EAR's Tim de Paravicini, and ProAc importer Richard Gerberg. This is an "audiophile-quality" commercial release all the way.

The CD, mastered by Greg Calbi, sounds warm and inviting, but there's little "there" there. I had trouble seeing the event in focus. Not so with the DAD. The difference was startling and unmistakable. When I played the 45rpm record, aside from a bit more noise and perhaps a slightly richer sound, the differences were minimal. I could sit and actually listen to, and thoroughly enjoy, DADs. Yes, "I" means *you*.

The sides are lining up in this battle. Even if you're in the stands, you'd better start screaming or we'll be stuck with CD forever—or, worse, 5.1 channels of Dolby Digital. That's okay for movies, but not for music.

Back to reality

We'll see how the DAD/SACD conflict plays out, how many titles become available, how much the players end up costing, and the rest over the course of the next few years. Meanwhile, I'm sitting here enjoying the new Van Morrison 20-bit CD remasters played on a multi-thousand-dollar CD player, but when I compare them to original vinyl on the \$299 Music Hall MMF



Music Hall MMF turntable
Inset: Goldring Elan phono cartridge

turntable, guess which sounds more enjoyable? Yes, the budget 'table has more noise lurking under the music, but the vinyl still has better focus and depth, and more rich "there" there. That won't change until the format does.

The flat-belt/crowned-pulley-drive MMF (no relation), made in the same Czech Republic factory as Sumiko's Project series, features a 4½-lb alloy platter and stainless-steel and bronze bearing assembly. Some designers, including Rockport's Andy Payor, think flat-belt/crowned-pulley drive is the best way to go for lowest wow and flutter.

The 9" (effective length) arm is reminiscent of the better late-'60s Dual arms, which featured dual-bearing gimbaled pivots. The arm's VTA is adjustable; even the counterweight is "decoupled" on a squooshy elastomer—as is the motor assembly.

A Goldring Elan cartridge comes installed, and it will get you through the night. It tracks well at 1.7gm and provides a warm, midrange-rich overall sound with images that are noticeably larger than life, but that give you a startlingly different (and enjoyable) take on your favorite records—especially if you're used to hearing them reproduced using far more expensive, higher-resolution cartridges.

I particularly enjoyed listening to a mint original mono pressing of The Byrds' first album I picked up for three bucks at a record convention. Apparently there are still dealers who don't

know the original mono versions of many rock records have become more valuable than the more common stereo versions. The bass line "pops" beautifully on the MMF/Elan combo, with a rich, surprisingly tight focus.

Substituting a Sumiko Blue Point cartridge (you're not going to really want to live with the Elan long-term) reinforced that the MMF is a damn fine performer—a chronic overachiever that offers a satisfying and fundamentally correct overall sonic balance. The key to the MMF's success is that it doesn't try to do *too* much. Every parameter is scaled back proportionally compared to far more expensive 'tables, except for noise, which is upped by the same amount.

So while the MMF doesn't give you ultradynamic deep bass, what it does give you is taut and rhythmically lithe—and because it's well connected to the rest of the presentation, you really don't notice what's missing because nothing sticks out. You get a little less of everything—especially dynamics—for a lot less money. My sample ran about 0.5% too fast, which is hardly noticeable.

Physically, 'the table pulls the same balancing act. The bearing appears to be precision-made, but it's nail-thin in diameter and connected to a lightweight plastic subplatter. The motor-and-pulley assembly is bare-bones, but surprisingly well designed and manufactured, especially for this kind of money. The

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NAD 533 turntable

fully adjustable arm is a pleasure to set up and use—I didn't hesitate to play some of my better records with it.

Add the paper-and-cork Ringmat record-support mat—also imported by Music Hall, and costing about a third of the price of the entire 'table (!)—and the sound improves even more, especially the bass. The MMF is a great way to step into analog on a budget. You won't be disappointed. And setup is simple, as the cartridge comes premounted.

If you have about a third more shekels to drop, you could consider NAD's variation on the Rega 2, the 533 (\$449), which uses an MDF platter in place of Rega's glass. As with the MMF, the NAD comes with a felt mat. For those unfamiliar with the Rega design, it uses a plastic motor pulley and an O-ring to drive a plastic subplatter. The 533 comes equipped with a Goldring Elektra, a higher-priced variation of the Elan, which also tracks reasonably well at 1.7gm.

The Rega/NAD 533's spindle bearing has a considerably larger diameter than the MMF's, and, I suspect, a higher tolerance as well. The Rega RB200 arm is an ultra-rigid one-piece cast-aluminum design that offers superb value/performance for the money. The one drawback—though some, like Rega's Roy Gandy, don't consider it one—is the lack of VTA and azimuth adjustments. Gandy favors rigidity over flexibility, and in any case doesn't believe audible differences from changing VTA are actually due to VTA. He thinks they're more due to minute changes in overhang caused by the height change, or "slop," in the adjust-

ment mechanism. He also thinks it's the cartridge manufacturer's job to get the azimuth correct. Love those idealists.

Anyway, the NAD 533/Goldring Elektra is another great bargain. Like

The Music Hall MMF is a budget tweeker's delight, the NAD 533 an out-of-the-box pleasure. Both turntables are attractive "plug'n'play" options for anyone wishing to return to analog on a budget.

the MMF, it, too, is a very strong performer and an incredible value for the money. I enjoyed listening to it for hours at a time—especially with the Ringmat in place of the felt mat. It gives you that certain relaxed analog "something" that no CD player at any price can.

Is it worth the one-third-higher price? The Elektra, while still not what you'll want to end up with, does offer better focus and detail than the Elan, and slightly better extension at both ends of the spectrum. Thus the 533 offers more refined sound straight out of the box than the MMF does, and will instantly provide greater listening satisfaction as a "plug'n'play" product.

But with the \$195 Blue Point optimally installed, the MMF beats the stock

533. Put the Blue Point on the 533 and you get a pretty tight match, though the 533 offers lower background noise, slightly better dynamics, and is, overall, a more ruggedly built product. Then again, if your aim is to change the supplied cartridge in the first place, you should consider the Rega 2 at \$495 with glass platter and no cartridge.

On the other hand, the MMF arm's setup flexibility gives you the opportunity to adjust VTA with the cartridge of your choice. The MMF is a budget tweeker's delight, the 533 an out-of-the-box pleasure. At \$299 and \$449, both are attractive "plug'n'play" options for anyone wishing to return to analog on a budget. (For a more detailed sonic evaluation of the Rega Planar 2, which is very similar to the 533, see *Stereophile*, Vol.19 No.12.)

Phono drive

Have a preamp with only a line section? NAD makes the ridiculously inexpensive (\$129) PP-1 MM phono preamp, made in China and featuring a separate out-board power supply (a wall-plug power transformer, actually) and a neat little gray box with gold-plated RCA input jacks and hard-wired output cables.

As I was about to audition the PP-1, the Thor Phono-Burn showed up. It's a \$350 lifesaver for any analog audio reviewer, and anyone else wishing instant sonic gratification from a phono section. You plug a CD player into it, and it into your phono section. Thor supplies a special CD with signals for both MM and MC cartridges. The Phono-Burn drops the CD player's line level and applies the inverse of the RIAA curve to the signal before sending it to the phono section's input. Set your CD player on "repeat" for either the MM or MC CD track and let it cycle for a day or so. If you have your phono section connected to your system, the signal can also "burn in" your entire system.



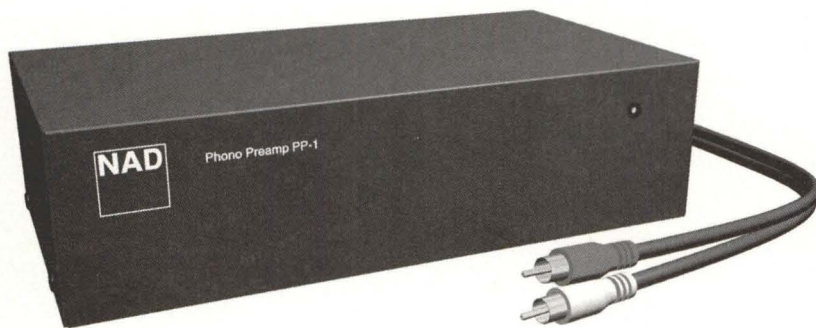
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AUTHENTIC FIDELITY



NAD PP-1 phono preamplifier

Of course, without an ABX box, burned-in and cold-out-of-the-box units to test, and 25 or so rounds of mind-numbing comparisons, my observations are without scientific merit and therefore devoid of value. But does it work?

Before and after auditions tell me yes.

Anyway, the Thor is a great accessory for the well-heeled audiophile, and certainly a worthwhile investment for any audiophile club or collective to keep on hand and lend out when needed.

Back to the PP-1: At \$129, you could go wrong only if it stank. It doesn't. I don't have the \$199 Creek OBH-8 here to compare it to, or the \$249.95 Musical

Fidelity X-LP, so I can't give you a 1-2-3. I can tell you that the PP-1 (MM only) errs on the side of warm, soft, and listenable, which goes along with the capabilities of the turntables with which it's likely to be used.

The PP-1 is a pleasant-sounding, low-noise piece that, while lacking dynamic and transient excitement, sounds surprisingly rich, round, and satisfying—as long as you don't expect too much for so little money. The PP-1 homogenizes detail and pushes images toward the center of the stage, but for the price you'd have no business complaining about some etch and grain, nei-

ther of which the PP-1 makes you suffer with. If you're slowly creeping your way back to analog or just want something to use to play back a small collection of records, the PP-1 is the lowest-cost path of least resistance.

That said, you won't believe your ears when you hear the Lehmann Black Cube phono section, imported from Germany by Hy End Audio Imports.¹ This \$695 MM/MC need not apologize for itself in any way at any price—that's how good it is. The Black Cube consists of an outboard power supply with IEC AC jack so you can play with power cords and a small (114mm by 44mm by 108mm) metal-chassis main unit connected via a shielded, hard-wired cable.

The carefully filtered power supply (explained in great detail in the instructions) includes high-speed diodes and precision voltage regulation. RIAA equalization is accomplished passively between two amplification stages, with no series capacitors in the signal path except for the subsonic filter. High-grade Analog Devices op-amps are used

¹ Hy End Audio Imports, 576 State Rd., N. Dartmouth, MA 02747. Tel: (508) 994-8450. According to the importer, there are 16 dealers in the US and Canada.

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Lehmann Black Cube phono preamplifier

choice. Given its cost, the Black Cube's specs are astonishing. For instance: 61dB of gain at 1kHz in MC mode with a S/N ratio of 69dB.

The numbers tell you "quiet," and so does the sound. The Black Cube had no

**The Lehmann Black Cube
MM/MC phono section
need not apologize for
itself in any way
at any price —
that's how good it is.**

problem handling the Parnassus D.C.t's low (250 μ V) output, and, with its low output impedance (<100 ohms), drove the Ayre K-1's line section to very loud levels. What's more, raising the cueing lever yielded dead silence.

As for the Black Cube's sound, the first thing I noticed was how fast and detailed it is; how it got leading edges and transients essentially correct. The second thing I noticed was how well it handled large and small dynamic swings—which can spell the difference between hearing

canned music and the illusion of live.

I've been playing Classic's excellent reissue of Dexter Gordon's *A Swingin' Affair* (Blue Note/Classic ST-84133) a great deal lately through the Ayre's built-in phono stage and the excellent \$2000 Pass Aleph Ono, and you know what? The \$695 Lehmann need make no apologies. It plays in the same league as the big boys.

Sonny Clark's front-and-center piano may not be as fully fleshed-out as with the expensive phono circuits, but its focus is superb, and harmonically it's more than credible. Ditto Billy Higgins' drum kit off to the right. Yes, Dexter's not quite as grounded as he can sound, or as richly presented as I've heard, but there's plenty of air and space around his tenor, and the whole thing swings like hell, even though the bass suffers a bit compared to the expensive spreads.

I don't know if it's offered with a money-back guarantee, but I'd say if you're unhappy—or, especially, *bored*—with your phono section, built-in or separate, and you're on a budget of \$1200 or under, get your hands on the Lehmann Audio Black Cube. I don't know of anything at or near the price, or maybe even twice the price, that sounds this good. ☒

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Fine Tunes

Jonathan Scull



In the September installment of "Fine Tunes," I wrote about the benefits of using nearfield listening to minimize your room's effect on the sound of your system. What you hear at the listening position should be first-arrival sounds from the speakers rather than chaotic reflections—in-phase and out—from the room. Allen Perkins of Immedia, importer of Audio Physic speakers, has written a white paper entitled "Principles and Techniques of Speaker Placement." It's provided to all purchasers of Audio Physic speakers. Essentially, it's a primer on nearfield loudspeaker placement.¹

It all started back in the cave. Humans have a directional sense for sound because below 2kHz or so, the brain detects the time delay between the signals reaching our ears. No delay means that the sound is coming from directly in front of you. If the sound emanates from everywhere, it's probably an audio reviewer. This information is processed by the audiophile brain during the first 800 microseconds (0.8ms) of the transient; that's the maximum time delay between the ears of most people, including reviewers, and is achieved when a soundsource is directly to the listener's side.

Allen's treatise explains that it's only after the initial recognition of direction that the perception of tonality begins. "This has recently been proven in scientific studies, and it's believed to be a critical part of our survival, historically. In other words, we first locate the origin of a sound, a potential danger for example, and then try to identify what it was that made the sound." Probably that pesky reviewer again.

To achieve a good stereo soundstage, you've got to eliminate as many early reflections as possible. This has a secondary benefit, says Perkins. "According to a psychoacoustic phenomenon called the Haas effect, the brain prioritizes the first sound wave to avoid confusion if the reflections are low enough in ampli-

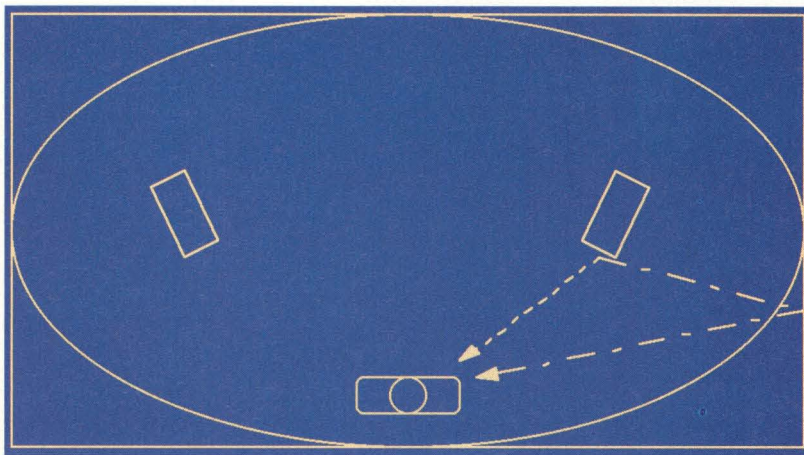


Fig.1 Direct vs reflected sound

tude. The result is, if the speakers measure flat under anechoic conditions, the brain will register flat behavior even if test equipment shows severe deviations in frequency response because of room reflections."

Let's start with a dedicated listening room like the one illustrated in fig.1. The ideal speaker positions here are at the two center points of an ellipse touching the walls of the room. The best listening position is 1–3' from the rear wall. "Make sure your system is wired in correct phase!" warns Allen. "The direct sound from the speakers reaches the listener before the side-wall reflections. You'll have better soundstaging and hear the speakers' tonal balance without room-related interference. The basic formula is, the distance from the speaker directly to the ear should be at least 5' less than the distance from the speaker to any reflective surface to the ear. The secondary sound *must* arrive at least 5 milliseconds after the primary one. For example, let's take a speaker-to-ear distance of 6'. The speaker-to-wall distance is 5', and the wall-to-ear distance is 8', totaling 13'. 13' minus 6' equals 7', so that should work."

As you'll see from fig.1, Allen prefers long-wall placement, as this allows for maximum speaker separation. He explains that the close proximity of the listener's head to the rear wall has two effects. At the room boundaries—the walls—the room nodes are suppressed,

as sound pressure is high but velocity low. So sitting in the maximum pressure area gives the best perception of deep bass. And, as the reflections there are shorter than the circumference of the listener's head (even mine!), the brain can't sense the time delay. "When the brain can't localize reflections," Allen explains, "it ignores them." That's for sure—just ask Kathleen!

Imagine being in a noisy public place and chatting with a companion. You're easily able to follow the conversation, even though a recording made from your listening position would sound like random noise. "Hearing your name spoken several feet away, you can change your focus and 'listen in' on the other conversation," says Perkins. "Our brain does this automatically all the time. It filters out the annoying natural resonances of a room, facilitates speech intelligibility, identifies potential dangers, and so on."

Next on Audio Physic's menu for good sound is room mapping. This is helpful for those without dedicated listening rooms, or with rooms of less than ideal proportions. Measure your room and draw a simple floor plan. Then divide the room into even divisions. According to the plan, the even points on the grid (fig.2) are where the bass will be reinforced.

Ideal speaker placements would be at A2 and C2, with the listening chair at B, against the wall. If you prefer the speak-

¹ You'll find a copy of "Principles and Techniques of Speaker Placement" on Immedia's Web site (www.immediasound.com), or by sending an SASE to Immedia, 2443 Magnolia Street, Oakland, CA 94607. Tel: (510) 654-9035. Fax: (510) 654-9039.

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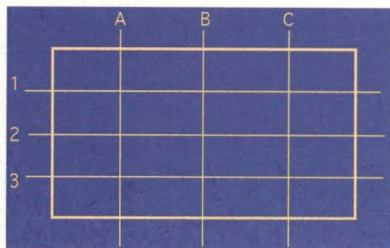


Fig.2 ABC grid, even divisions

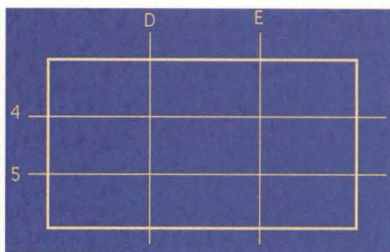


Fig.3 Odd divisions

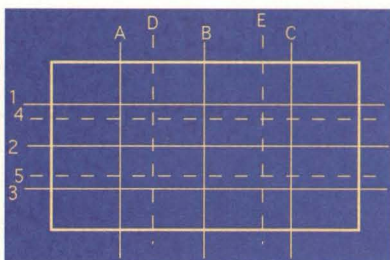


Fig.4 Overlay

ers on the short wall, you can get almost the same bass reinforcement by putting the listening chair against the wall at line 2, and the speakers at B1 and B3. This won't give you the advantages of wide speaker placement with maximum distance from reflective surfaces, however. Next best would be speakers at A1 and A3 or C1 and C3. You can also put the listening chair at B2, with the speakers at A1 and A3 or C1 and C3. Or place the chair at A2 and the speakers at C1 and C3.

Tuning the bass and midbass makes use of the same principles to *cancel* rather than reinforce the low frequencies. Just move the speakers into the odd divisions of the grid. Fig.3 shows a drawing of the same room with odd divisions. The crossing points are the locations with the *least* bass reinforcement. By overlaying the grids (fig.4), you can see that small movements can have potentially big effects on the sound. According to the paperwork, when you hustle the speakers about the room there's a tendency for lateral movements to affect the midbass, while movements forward and back affect the lower bass. Of course, where to drop

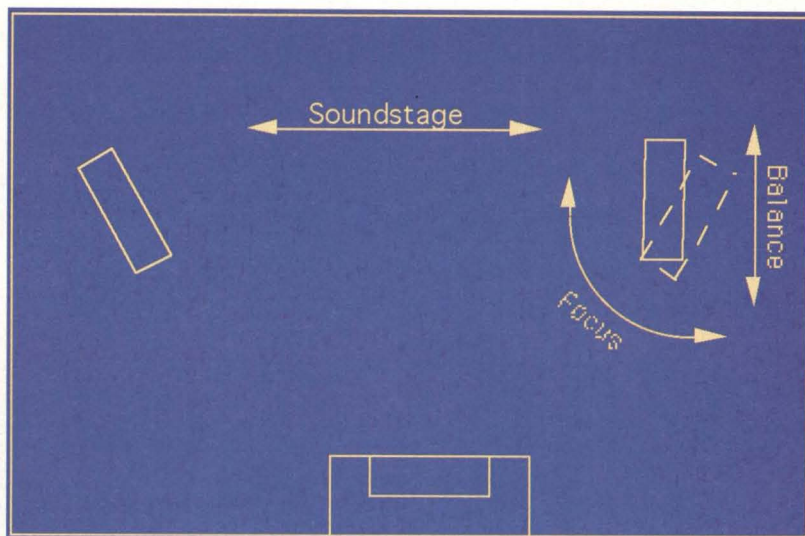


Fig.5 Types of motion for speaker adjustments

the listening chair and speakers has to be determined by room size and furniture layout, not to mention the forbearance of loved ones.

Round up an audio bud some evening and do the following: After mapping the general placement for deep bass, work out the distance between the speakers. Using material with a strong center image, such as female vocals, listen to the center-fill with the speakers about 6' apart and pointed slightly behind the listener. Move them about a foot farther apart and listen again. When the center image thins out and becomes diffuse, you've reached the point where separation is too great. The Audio Physic method calls for the widest possible soundstage without losing center-fill energy. According to the white paper, blind listening tests have determined that the preferred angle of separation, listener at apex, is 72°.

Adjusting balance is next. If the system is set for equal output but the center image is off to one side, one speaker may be closer than the other. Compensate by moving one of them slightly forward or back. If a vocal you're familiar with should be centered but sounds slightly pulled to the right, move the right speaker back or the left one forward. Small movements can be quite audible.

Finally, focus the image. The basic technique is to rotate only one speaker baffle to change the dispersion pattern. Toe-in, as it's called, is best done with an audio bud on hand. Sit in the listening chair and start with the speakers aimed slightly behind your head, with the same distance from ear to tweeter on

both sides. Play a recording with voice or violin and listen for focus while your assistant rotates one speaker around the inside front spike for a reference.

Allen: "The listener will then signal to indicate the best speaker location." I bet... by falling off the chair and plotting, no doubt. "When this is done, neither speaker has to be readjusted to 'look' like the other. The reason the speakers are not usually symmetrical is that rooms are not symmetrical, and these differences affect dispersion."

A few final suggestions from Bernd Theiss and the other engineering boys at Audio Physic: One change affects another, so go back and keep refining the steps until you're really happy with the sound. While this plan works without room treatments, their judicious use can be a great help. For example, since the listening position is close to a rear wall, try a towel, a pillow, or some other light damping material behind your head—it might well improve the sound. (We listen in a modified version of the Perkins Plan; I find I have to damp or disperse the reflections behind the listening position.)

Also, by moving your head back and forth—yes, like an Egyptian!—you'll find the distance from the wall where there's the most energy. This is a result, audio engineers will have you know, of slow wave velocities close to room boundaries. And last, as I recommended in the previous column, the amount of toe-in can affect the sound quite drastically. Listen to the difference between tweeters pointed directly at your ears and then aimed *behind* the listening position. To some extent, you can adjust for a bright or dull room this way. ■

SOME THINK THIS LEVEL OF EXCELLENCE IS EXTRAVAGANT



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A flurry of phone calls, strange hang-ups, bizarre messages on the answering machine—less knowledgeable wives would suspect an affair. The rest of us recognize the tell-tale signs of an impending equipment purchase.

Okay, I admit it—I have *occasionally* bought an outfit that cost just a little bit more than I knew I should spend. And, well, yes, I *have* stashed it in the closet until I had a reason to wear it. And, yes, when hubby has finally asked, “Ohhh, new dress?” I’ve coyly smiled back, “Of course not, honey, it’s been in my closet *forever!*” Right hand placed firmly on my Barney’s and Sak’s credit cards, I confess to the “buy’n’stash” deception. But what are audiophiles thinking when *they* try to apply this little deception?

Suddenly the living room looks neater. “Honey, did you clean the living room?” I ask.

My audiophile smiles. “Yup, I’m trying to put things in order.”

The next day, an avalanche of boxes blocks the living room. “Ahhh-huh, I’m packing up all the stuff I don’t use.” He doesn’t mention that the old equipment he’s “not using” anymore is the piece that, six months before, he just *had* to have.

The week wears on. I come home late one night to a living room that looks different, though I can’t place my finger on it right away. Oh, no! It’s been vacuumed in the middle of the week—by my hubby.

This is serious. Something really big is going on. I look in the broom closet, and there see what I feared I would find: a few pieces of styrofoam popcorn hanging off the bottom of the vacuum cleaner.

I go into the kitchen and start cooking dinner. My audiophile pops his head in, sweat pouring down his brow. “I thought we’d go out to dinner,” he says, ushering me toward the door. The phone rings, but he keeps heading for the door. “Oh, I’ll get that later.”

Now I *know* something is wrong. This man has been known to knock down neighbors as he sprints to the door to

catch a call. But I know it as well as he does—if he takes the phone call, he’ll be compelled to discuss his new purchase.

We return home late that evening to a frantically blinking answering machine. My audiophile walks past it. We go into the living room. I strain my eyes in the dark to see if I can spot anything new.

Audiophiles claim that listening in the dark helps them focus on the sound. A likely story. The *real* reason they keep

How could I even *think* my beloved would do such a thing?

I open the terrace door and step outside, smack into a huge box. There it sits, among herbs and flowers, 17 floors above the city streets—a big, brown carton. And it’s empty. Hmmm.

I can hear the phone, still ringing in the background. Remembering that, in my youth, I never won an Easter Egg hunt, I relinquish all fantasies of being able to locate the new piece of equipment and head for bed.

“Honey, I’m just going to check my e-mail before I come to bed.” Hours later, he’s still pounding away on the computer.

I can’t stand it. I have to know. *Where* has he stashed it? I peek in the linen closet and find a hoard of tubes stuck behind the hand towels. I look behind the big comfy chair in the living room—just a big pile of audio magazines. I peer into the kitchen cabinet: a bunch of coiled-up air hoses leap out at me, attached to

two discarded air pumps, but no new equipment. I begin to wonder if bloodhounds can be rented. How are they listed in the *Yellow Pages*? I give up and go back to bed.

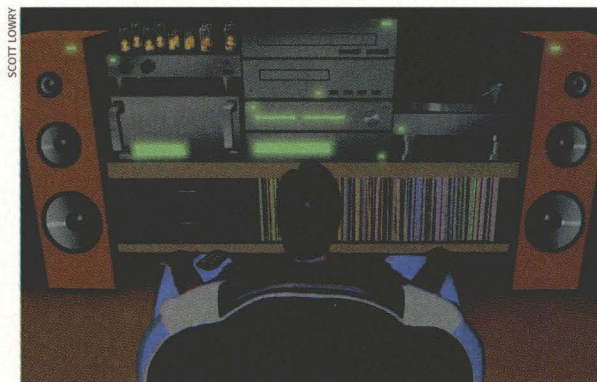
Next day at work, I mentally retrace my steps. I *must* have missed some corner where the item was stashed, but nothing comes to mind. I hate to admit it, but it seems I’ve been “out-stashed” by a . . . a *man*.

I get off the elevator at our floor. Walking down the hall, I hear music coming from our apartment. I hear my hubby on the phone: “Could you hold on a minute? I got another call coming in.”

As I open the door, my hubby quickly hangs up the phone and puts my favorite CD on the system. I sit down and listen. It definitely sounds different.

There it is, right in front of my nose. How could I have missed it? I look to my audiophile: “Darling, isn’t that a new preamplifier?”

He looks at me and coyly smiles. “Ohhh, no, I’ve had that preamp around *forever.*”



**The *real* reason
audiophiles listen in the
dark is so significant others
can't see when new
equipment has been
brought into the house.**

their listening rooms dark is so significant others can't see when new equipment has been brought into the house. (Bob Reina has suggested that high-end manufacturers aid and abet audiophiles by using the same faceplates for *all* their models, thus masking any new purchases from significant others. If only they could mask the bank-account depletion.)

My audiophile's purchase hasn't made it into the system yet. Nope, it's still in the “stashed” phase. Despite all the signs, I see no new equipment, and start to feel a bit guilty for suspecting him. Yes, perhaps I *have* become jaded.



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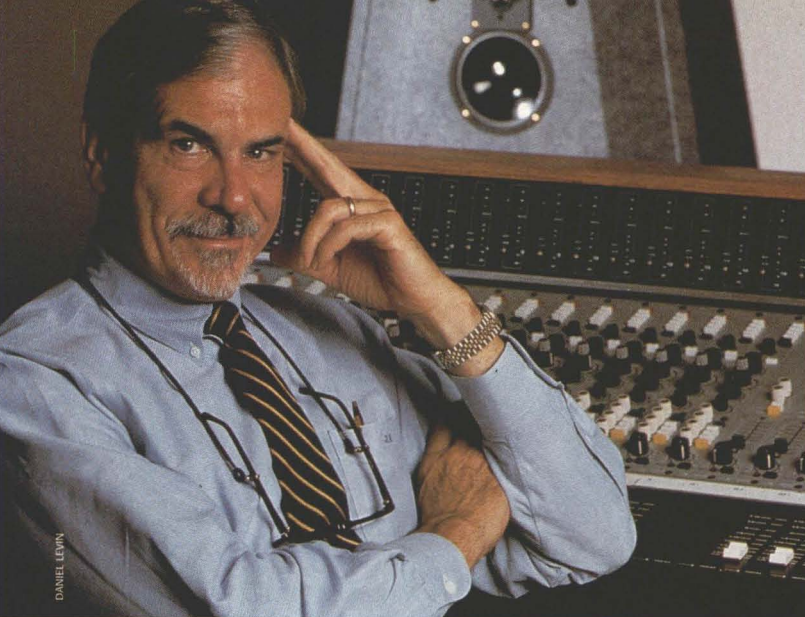
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**LEGENDARY
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Kathleen and I first met Jack Renner—Telarc's chairman, CEO, and chief recording engineer—at Iridium, a tony jazz club here in New York. He was recording Benny Golson and the Jazz Messengers doing a rousing tribute to Art Blakey. Now what would you think a guy whose company has won 31 Grammys (six for Renner personally) over 21 years would be doing, exactly? Maybe have his feet up, a cigar languidly tracing curlicues in the air while directing his minions?

Ah, no. Jack Renner was a veritable blur of activity. He checked the mikes and did sound checks while scurrying back and forth to a small office cum recording studio just behind the stage. He also found time to make sure K-10, yours truly, Noel Lee (Head Monster of Monster Cable), and his other guests were at a good table and supplied with fluids.

The Jazz Messengers—Terence Blanchard, trumpet; Curtis Fuller, trombone; Geoff Keezer, piano; Peter Washington, bass; Lewis Nash, drums—were outstanding. Mr. Golson was way deep in the groove, Lewis Nash did Art Blakey proud, and Terence, I think it was, told me he reads *Stereophile*! What an evening. Some time afterward, while Jack was in town for a recording session, he dropped by our loft...

Jonathan Scull: I know it's been a while, Jack, but just how long have you been recording?

Jack Renner: Well, Telarc is in its 21st year, but I've actually been recording since February 20th, 1962.

Scull: February 20th? What happened on that seminal occasion?

Renner: John Glenn went into orbit, a fellow Ohioan.

Scull: How did you start? Were you, perchance, an audiophile?

Renner: No, I'm not sure I would ever classify myself as an audiophile.

Scull: Ha!

Renner: I was a high school music teacher whose hobby

was recording, and I was looking for a way out [of teaching]. I was doing everything possible to make ends meet. I directed a church choir and a semiprofessional men's chorus. I played in jazz groups and taught private lessons. And each year I would go to the State Music Teacher's Convention and watch people get their 25-year pins. And I thought, "I'm not going to do this for 25 years. I don't want to do *anything* for 25 years!" So now I'm starting my 36th year in recording! [laughs] But I didn't get a pin.

Scull: So tell us the gory details.

Renner: Well, I started out in the custom record business back in the early '60s. There were a number of pressing plants around the country advertising in music magazines: "Send us your tape and we'll make it a record." I found one that was doing franchising—they set you up with professional gear and taught you the basics. My business was dealing mostly with high schools, churches, colleges, community choruses, bands, for—I hate the term—"souvenir records."

Scull: I suppose the compact cassette changed things rather drastically.

Renner: Yes, it caused a big decline in business. But it was about that time that I met my now-business partner, the president of Telarc, Robert Woods. He was a soloist at one of the local churches in Cleveland. Well, to make a long story a little shorter, Bob had some contacts in the business. He knew some people at the Metropolitan Opera, and he found some jobs for our struggling company. Bob helped us get into what we called the vanity business. There were a number of people, like principal players in the Cleveland Orchestra—huge talents—who were just not in a position to have a solo career or have a record company pick them up. So they'd come to us and offer to pay for the record if we'd record and distribute it. That really was very helpful to us. The upside was, it gave us an opportunity to record some

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Exceptional Performance

very fine musicians. And that allowed me to continue with my goal of working with better and better people. The downside was that I'd get calls from these same people: "My grandmother in Biloxi can't find my record in the stores there!" [laughs] Anyway, that really kept us going for a while.

But it was in 1977 that Telarc was founded, and things started going in the direction that we find ourselves today. Back then, as you may recall, Doug Sax was leading the direct-to-disc revolution. Sheffield Labs was going great guns; it was obvious that was what audiophiles wanted. So we decided we'd do them one better and make a direct-to-disc recording with a major orchestra. We approached Lorin Maazel at the Cleveland Orchestra, and he said, "Well, I'm an adventuresome person, let's do it." The LP was the rather cleverly titled *Direct from Cleveland* and it was a three-way collaboration between us and Bruce Maier, the founder of Discwasher, and Glen Glancy, who owned a record company in California at the time.

Scull: *Direct from Cleveland* was featured on *Stereophile's* very first color cover [of the Spring '77 issue, Vol.3 No.12—Ed.]. How was it received?

Renner: With mixed reviews, but it put us on the map. It wasn't perhaps my best engineering effort. There were three different people saying, "I think it should sound this way—no, *that* way!" Then we started doing some organ recordings and getting reviews in major magazines. In July of that year, we made two recordings with Michael Murray, the organist, direct-to-disc, and we realized that if we wanted to be really serious about the record business, direct-to-disc recordings was probably not the way to go.

Scull: Was this how you got into digital?

Renner: Yeah. About August of '77 I got a call from a fellow named Steve Guy, who has since passed away. He owned a company in Hollywood called Location Recording Service. He was one of the two major companies doing the school-record business, and they'd put together quite a high-quality pressing plant called Record Technology Inc.

Scull: Ah, yes, RTI.

Renner: Right—another native of Cleveland, you know. And he said, "I think you guys owe it to yourselves to hear a digital recording." He'd just come from [an AES meeting], where Dr. Thomas Stockham had demonstrated his Soundstream recorder. Bert Whyte had used it as a backup on a Boston Pops recording. Well, they gave me Dr. Stockham's phone number and it sat on my desk for a couple of months. We still had our association with Bruce Maier; Discwasher distributed our direct-to-disc recording with the Cleveland Orchestra. Bruce sent us some Denon digital recordings he was importing. My partner Bob and I listened to them and thought something was missing. We went to the October AES convention in New York with a

TELARC'S FIRST RECORDING, WITH LORIN MAAZEL AND THE CLEVELAND ORCHESTRA, WASN'T PERHAPS MY BEST ENGINEERING EFFORT. THERE WERE THREE DIFFERENT PEOPLE SAYING, "I THINK IT SHOULD SOUND THIS WAY—NO, THAT WAY!"

financial backer who had paid for the direct-to-disc recordings, and listened to Tom Stockham's Soundstream system. We were much more

impressed, but still had the audacity to ask Tom to improve the high-frequency response. "If you'll extend it beyond 20kHz, we'll do a project with you." Now there I was, somebody who'd issued two direct-to-disc recordings—our main claim to fame—and we were demanding of Tom Stockham, the father of digital recording, that he make his machine sound better! [laughs]

Scull: And...?

Renner: And he said, "I'll do it." In late January, he called. "All right, it's at 22.5k, where's the project?" [laughs] So on a very snowy night in early March, Bob—who at that time lived about three blocks from me—trudged through two feet of snow to my place and we sat in front of a roaring fire and brainstormed. What would be the right first project? It had to be something really spectacular, with great dynamic range: organ; organ and brass; or organ, brass, and percussion.

And then one of us said, "What's turning audiophiles on these days?" It took us about three seconds to realize it was Mercury Living Presence. I called Frederick Fennell—he was teaching at the University of Miami at the time—and he practically jumped through the phone when I asked him about re-recording some of his greatest Eastman Wind Ensemble hits with the wind, brass, and percussion of the Cleveland Orchestra. Fred is a native of Cleveland, by the way... did I mention that? [smiles]

Scull: No... [laughs] Pray continue...

Renner: So on April 4th and 5th in 1978 we made audiophile history with the Cleveland Symphonic Winds and Holst's *Suites 1 and 2 for Military Band*. It was the first commercial digital recording of symphonic music in this country. The bass drum that was heard around the world! The pressing was done at RTI but mastered by Stan Ricker, who worked at JVC's mastering facility in Hollywood. Stan attended a number of our sessions on the first several projects because he was going to do the mastering of the LP and wanted to make sure that we were giving him a tape that could be cut. He was especially concerned about the low frequencies. Stan took the recording around to several speaker manufacturers in L.A. and blew up speakers all over the place! [laughs] Then Bob Woods made a presentation to Robert Shaw, who he'd sung under a number of times, and it was decided that we would next do an orchestral and choral piece. That's when *The Firebird* was recorded.



The very first color cover for *Stereophile* featured Telarc's *Direct from Cleveland*, the very first orchestral LP recorded direct to disc.

“Do you really need new speakers?”

Matt Polk, Speaker Specialist

Maybe you don't need new speakers. Maybe you do. Here are some tips on how to know whether or not it's time for a change.

Do they work right?

The first thing to check is the woofer surround — the rolled edge of the driver. If it's made of compressed foam and more than 5 years old, it may be shot. Are there any holes or tears? Gently touch the surround, if it feels brittle, stiff and ready to crumble, you need new woofers. If the surrounds are rubber they're probably perfect.

The next thing to check is whether all the drivers are making sound. Play the speakers with the grilles off. Lightly touch all the drivers to feel if they're moving. Cup your hand over the tweeter, remove it. Does the sound change? If not, the tweeter is dead. Play a solo piano recording at a moderate loud level. If you hear scratchy sound or a buzz, the midrange or tweeter may be damaged.

If you have any doubts, bring the speakers in to a local audio store and ask them to check them out. Most dealers will be happy to help.

Are you happy with the sound?

Do they sound great with all the kinds of music you're listening to today? Some speaker companies voice their speakers to sound good with certain types of music (a bad policy in our opinion). If your musical tastes have changed since you bought your current speakers, it might be time for something better. But if you're really happy with the sound — stick with what you've got.

Do they look good? Do you care?

Do your current speakers look appropriate and fit comfortably in your room? Has your significant other banished them to behind the couch? Don't laugh, I know a household where that happened. Today's speakers are generally smaller and better looking, with better performance than speakers of ten years ago.

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Three of Telarc's early orchestral LPs, all recorded in 1978 with Dr. Thomas Stockham's Soundstream digital recorder: the Cleveland Symphonic Winds, conducted by Frederick Fennell (Telarc 5038); Stravinsky's *Firebird* (Telarc 10039); and "Digital Cannons," the infamous *1812 Overture* (Telarc 10041).

Firebird was the first commercial *orchestral* digital recording done in this country. Then, in October, we went back to Cleveland and recorded the now-famous *Pictures at an Exhibition*. And unbeknownst to us, that was to become the first digital recording with a world-class orchestra done anywhere in the world.

Scully: Including Cleveland...

Renner: [smiles] We had no idea—it took us several years to realize it. Decca was doing *New Year's Day in Vienna* with digital, and that came out about the same time. When we finally researched the recording and release dates, we found we'd beaten them! We did it in October of '78; they recorded in January of '79.

Scully: So Telarc began as a classical audiophile company?

Renner: Right, primarily because Bob and I were both classically trained musicians, conservatory grads. I was a trumpet player; Bob was a singer. A perfect combination. And we both had conducting experience with instrumentals and vocals.

Scully: I suppose that background in musicianship had an effect on the Telarc sound?

Renner: Sure. I know what it's like to stand in front of a performing group. I know what it *feels* like. I know what it sounds like, the mix of direct and reverberant sound, for example.

Scully: Ah, that neatly leads me to *The Question*. What do you think is the purpose of a high-end system? What are we looking for when we pop a Telarc CD into the player? Is it the re-creation of acoustic instruments in real space, or a faithful re-creation of the master tape?

Renner: Well, there shouldn't be any difference. The master tape should sound like real musicians in real acoustic space. John Atkinson and I had this same conversation around 1980 or '81.¹ I'll say the same thing to you that I said to him back then.

Scully: Oh, nooo! [laughs]

Renner: Given the problems with early digital, the signal we put on the tape was fine. It was just getting it back off that was the problem. And I think in the last few years we've really come to realize that more and more.

Scully: What do you use today?

Renner: Well, basically, 20- or 24-bit masters—which, of course, have to be noise-shaped down to 16 bits. Most of our recording is done with the Tascam DA-88, and we archive at 24/96. Steve Lee at Canorus, the importer for dCS and Nagra, has been following us around occasionally as well.

And we're about to take a look at the new Sony/Philips Direct Stream Digital, which my associate, Michael Bishop, and my associate engineer and good friend and colleague Tony Faulkner, in England, have a great deal of experience with.

Scully: So what's the future of recording? What will you be using in five years?

Renner: I really believe that it will be a system that offers a higher bit rate, probably 24, and at least a 96k sampling rate. That will allow you to record in at least six channels. Right now we're severely limited that way.

Scully: How do you mean?

Renner: We're doing an awful lot of things in surround-sound these days. A lot of people have home-theater systems, and they love getting high-quality audio to play on them. But with the dCS/Nagra system you're looking at around \$35k for two channels from your friendly, local Canorus dealer! We've used the Tascam for several years now. It's still tape [the Tascam uses Hi-8 8mm video tape—Ed.], but it's very reliable in the field. You know, with a DA-88 you can record six tracks of 20-bit information, or four tracks at 24 bits.

Scully: How's it sound?

Renner: Well, as long as you're using external A/Ds and D/As, it's quite good.

Scully: How do you edit?

Renner: Well, the biggest problem now is there's no efficient way of editing 24/96 or 24/192 recordings. However, there's lots of work going on to supply editing equipment for all formats. I'm told by Sonic Solutions they'll have something available within the next few months. We'll probably archive in DSD when the gear becomes available. The beauty of DSD, of course, is that it can be formatted into any sampling and bit rate you choose. Take your pick.

Scully: What do you use now?

Renner: We have three editing systems: two Sonic Solutions [running on Macintosh platforms], and one SADIE [running on a Windows PC]. You just can't do it without them.

Scully: What's the secret to making a really good recording, Jack?

Renner: Well, it all really comes down to the signal path and, I think, to the combination of components. For years, when I first started making orchestral recordings with three and four microphones, I had a lot of imitators. But people just didn't quite get it right. Because it's not just putting up three or four mikes. It's which mikes you choose, it's the cable, it's the electronics—it's the whole signal path.

I like to take a classical approach to everything I do. By that I mean I'll use basically the same microphones on jazz

¹ For an interview published in the January 1983 issue of the UK magazine *Hi-Fi News & Record Review*. The late Peter W. Mitchell also interviewed Jack Renner for *Stereophile* in January 1990 (Vol.13 No.1, p119).

—JA

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as I will on classical. Typically I'll use a lot of omnidirectional microphones, for example—which, in a club, is asking for trouble because of leakage. You know, a lot of jazz engineers would be scared to death to put omnis out on stage because of that. But it gives me a wider dynamic range, a better frequency response, and a more natural re-creation.

Scully: *What else do you use?*

Renner: Well, cardioids on drums, bass, and horns. But I use omnis wherever I can get away with it.

Scully: *Anything out in the audience?*

Renner: A one-point stereo mike or spaced omnis again.

Scully: *You don't use Blumlein?*

Renner: Well, a crossed-pair of figure-8 mikes has a limited low-end response. And for me it gives too much image specificity. Everything is locked right in *there* and *there*. Lots of people love that, but I like omnis. They'll give you more bloom and more sense of space.

Scully: *Are the types of mikes you use a secret?*

Renner: No, not at all. I use a lot of B&Ks, Schoeps, and Sennheisers. We try to select mikes that have very low noise floors, and as flat a frequency response as we can find. We do have some vintage Neumann tube mikes with silver internal cabling—you know, the usual tweaky stuff. Similar to what your brother does, Jonathan. But I couldn't find him when we needed them fixed!

Scully: [laughs] *I can never find him either! I don't think many people know that microphone maven Stephen Paul of Stephen Paul Audio is my brother. He doesn't use the family name. Moving right along, what mike preamps do you use?*

Renner: We typically use Millennias, which, we feel, as solid-state units go, are the most neutral-sounding.

Scully: *Do you keep them close to the mikes?*

Renner: Normally we put them right on the stage with a short mike-line run. In the case of The Jazz Messengers' *The Legacy of Art Blakey* that you and Kathleen attended at Iridium, we had a very short cable run. And the mike preamps were right in that little back-room office. If there was any chance at all of something overloading, or if I didn't have the gain structure just right, I didn't have to go crawling out on stage during the performance and tweak the pots!

Scully: *So the boss of Telarc is still crawling around on his knees! What kind of a mixing console did you use?*

Renner: We were using the Millennia Mixing Suite. It's fabulous-sounding. Well, you know, I shouldn't refer to it as sounding like *anything*, because it's really very neutral and uncolored, which is unusual.

Scully: *Is the mixer tweaked in any way?*

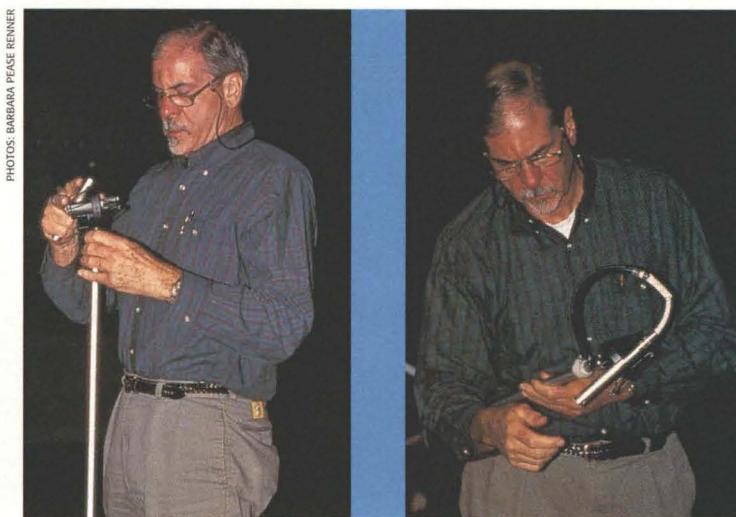
Renner: We have used hot-rodged consoles. We had one that was internally wired with Monster Cable that we used for a long time. In fact, a number of years ago we were recording the Cincinnati Pops and the Monster Cable console went down—nothing to do with the fact that it was wired with Monster Cable, of course.

Scully: *Of course...*

Renner: We actually use a combination of Monster Cables and MIT. We're good friends with both Noel Lee and Bruce Brisson.

Scully: *Imagine...*

Renner: So a component failed in the middle of a session. We had a backup console from the same manufacturer,



Jack Renner adjusts his preferred omnidirectional mikes.

Neotek, and it took us only 10 minutes to set it up. Now understand, we've got a signal that's spent its whole life from the microphone output to the A/D going through Monster Cable. Then we switched to the console with the standard cable in it. And the minute I brought up the fader, everybody in the control room—not just my technical assistants and the producer, but the orchestra manager, the musicians who weren't in that particular number—they all said, "What did you do, what happened to the sound?" Everyone could hear that the soundstage got smaller. Everything just got a little more narrow and not quite as bloomy. If you ever needed a demonstration of the effects of high-performance cable, that was it.

Scully: *And the A/Ds?*

Renner: Well, the signal passes through our proprietary 20-bit A/D designed by Tom Stockham. Even today, the only thing that comes close to it, or perhaps we can say that exceeds it, is the 24-bit 96k dCS. But Tom built this unit for us six years ago. And he was still way ahead of his time.

Scully: *That's an all-solid-state unit?*

Renner: Yes, we do use tubes, but not very often. And especially not on live dates. They tend to go down at the most inopportune times! We really feel that the solid-state mikes, preamps, and electronics we're using are the best available.

Scully: *How would you characterize the Telarc sound?*

Renner: I used to say that my recordings are made from the perspective of the best seat in the house. And immediately, of course, somebody says, "Well, who are *you* to say what's the best seat in the house?" [laughs] Let me tell you what Lorin Maazel once said about my recordings that pretty well sums it up. He said, "They sound the way I hope the audience is hearing what I'm doing behind me."

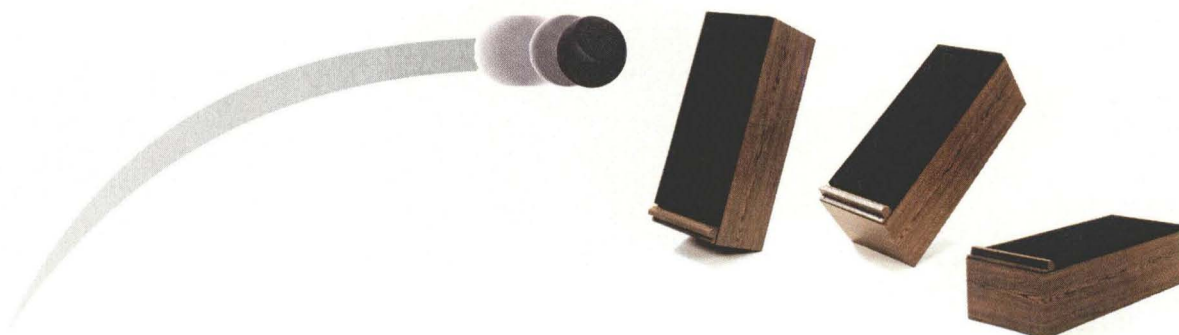
Scully: *Well, that's a huge compliment.*

Renner: Yes. And it's through a balance of directive and reflective sound that you get a feeling of tactility about what's onstage.

Scully: *Palpability might be another way to put that...*

Renner: Right. But not so present and palpable that you feel like you're right inside the instruments. But rather with a mix of reflected sound so that you have a nice feeling of a *finished* sound, one that gives you a sense of palpability or tactility, a sense of presence, detail, and imaging. Yet you

The Shot Heard 'round the World

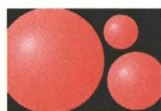


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Comments by Stereophile writers in
reaction to the Micro system @ Hi Fi 98

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don't feel like you're straining to hear anything. Things aren't awash in reverb. You just feel very comfortable with the sound—it's not a hi-fi, hyped-up kind of thing. Going back to what you asked me before, I like to think of myself as being a re-creator, trying to re-create an event that occurred in time and space.

Scull: *Who are your personal heroes?*

Renner: C. Robert Fine... that was easy! Without even realizing it, when I was a high school music teacher, I was listening to his Mercury Living Presence recordings and thinking, "Boy, that sounds like the real thing!" It was just... right. Or Lewis Layton on the RCA/Chicago Reiner recordings. They were models of simplicity that sounded absolutely natural.

Scull: *And the best work you've done?*

Renner: Well, maybe the most satisfying single classical project was doing the Beethoven Piano Concerto Cycle with Rudolf Serkin and the BSO and Ozawa. That was a real peak. And we'd only been in business, what, five years when we did that. In retrospect, working with Serkin was probably the high point of my career. I mean, we also worked with Ormandy and other very-big-deal orchestras and conductors. And probably the most satisfying of these has been our continuing series with Robert Shaw. I don't

care if anybody wants to argue this, but I maintain that his is the single greatest influence in choral singing of our generation. We must have done at least 35 or 40 recordings together by now.

Scull: *When we were listening to the Ellington Jazz Party on vinyl earlier, you looked over the list of participants and mentioned that you'd worked with everybody on the recording except Basie! Who were some of the jazz greats you've recorded with?*

Renner: Well, the list is quite, quite long. You may not know that the marketing slogan for Telarc Jazz is "The Label of the Legends." And to substantiate that, let me start with Oscar Peterson, Dave Brubeck, George Shearing, and Ray Brown. We've done several things with the Count Basie Orchestra, Joe Williams, and Mel Tormé. Let's see... we did Gerry Mulligan and Dizzy Gillespie's final recordings. We also did Joe Pass.

Scull: *Any other projects on the table that you'd like to tell us about?*

Renner: Well, there's the Benny Golson Tribute album, and we're about to release a duet album with Oscar Peterson and Benny Green, with Ray Brown on bass and Greg Hutchinson on drums.

Scull: *Hey, I hope you remember our address!*

Renner: [laughs] And I'm going into the studio tomorrow to finish a Jim Hall project. This will be our fifth record with Jim. You know, there are over 600 titles in the Telarc catalog.

Scull: *Remarkable. Any advice to budding recording engineers?*

Renner: Yeah. You know, when I first started out, somebody told me, well, just do the best job you can and don't look over your shoulder. As Satchel Paige, the famous Cleveland Indians pitcher, used to say, "Don't look back. Something might be gaining on you!"

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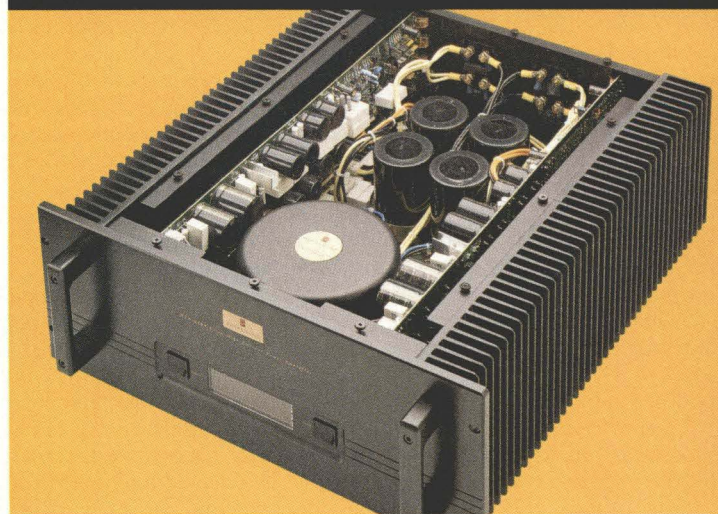
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RECOMMENDED COMPONENTS

Components listed here are ones that have been formally reviewed in *Stereophile* and have been found to be among the best available in each of four or five quality classes. Whether a component is listed in Class A or Class E, we highly recommend its purchase.

Each listing—in alphabetical order within classes—is followed by a brief description of the product's sonic characteristics and a code indicating the *Stereophile* Volume and Issue in which that product's report appeared. Relevant reviews that appeared in our companion *Stereophile Guide to Home Theater* are indicated by "SGHT.1 No.1"; ie, the component was reviewed in the *Stereophile Guide to Home Theater*, Volume 1 Number 1, which was published in December 1994. (Vol.1 No.2 of the *Guide* was published in September '95; Vol.2 Nos.1–4 in 1996, Vol.3 Nos.1–4 in 1997, Vol.4 Nos.1–10, Issues 11–20, in 1998.) Please note that

dedicated home-theater products are no longer included in this listing but are part of *Stereophile Guide to Home Theater's* "Recommended Components," the most recent version of which was published in that magazine's March/April 1998 edition (Issue 13, Vol.4 No.3).

Some products listed have not yet been reported on; these are marked (NR) for "Not Reviewed." We recommend that any product's entire review be read before purchase is seriously contemplated (products without reviews should therefore be treated with more caution)—many salient characteristics, peculiarities, and caveats appear in the reviews, but not here. To obtain back issues of the magazine, visit our web site: www.stereophile.com. We regret that we cannot supply photocopies or e-mail copies of individual reviews.

In general, components do not remain listed for more than three years unless at least one of the magazine's writers and editors has had continued experience

with them. Discontinuation of a model also precludes its appearance. In addition, though professional components—recorders, amplifiers, monitor speaker systems—can be obtained secondhand and can sometimes offer performance that would otherwise guarantee inclusion, we do not generally do so. *Stereophile's* "Recommended Components" listing is almost exclusively concerned with products currently available in the US through the usual hi-fi retail outlets.

How recommendations are determined

The ratings given components included in this listing are based entirely on performance—ie, accuracy of reproduction—and are biased to an extent by our feeling that things *added* to reproduced sound (eg, flutter, distortion, colorations of various kinds) are of more concern to the musically oriented listener than are things *subtracted* from the sound (eg, deep

bass or extreme treble). On the other hand, components markedly deficient in one or more respects are downrated to the extent that their deficiencies interfere with the full realization of the program material.

We try to include in "Recommended Components" every product that we have found to be truly excellent or that we feel represents good value for money. Bear in mind that many different tastes are represented. The listing is compiled after extensive consultation with *Stereophile's* reviewing staff, editors, and publisher, and takes into account continued experience of a product after the formal review has been published. In particular, we take account of unreliability and defects that show up after extended auditioning. The fact that a product received a favorable review

Where we have found a product to perform much better than might be expected from its price, we have drawn attention to it with a \$\$\$ next to its listing. We also indicate, with a ☆, products that have been on this list in one incarnation or another since the "Recommended Components" listing in Vol.18 No.10 (October 1995). Longevity in a hi-fi component is rare enough that we think it worth noting (although it can also indicate that the attention of design engineers has moved elsewhere).

A note on editorial style is in order. When a passage is quoted from the original review, the past tense is used. But when the comment is taken from a more recent private communication from a reviewer, the present tense is used. For example: "Sounded so good I had to cry," said JA of the original ver-

How to Use the Listings

Carefully read the descriptions here, the original reviews, and (heaven forbid) reviews in other magazines to put together a short list of components to choose from. Evaluate your room, your source material and front-end(s), your speakers, and your tastes. With luck, you *may* come up with a selection to audition at your favorite dealer(s). *"Recommended Components" will not tell you what to buy any more than Consumer Reports would presume to tell you whom to marry!*

Class A

Best attainable sound for a component of its kind, without any practical considerations; "the least musical compromise." A Class A system is one for which you don't have to make a leap of faith to believe that you're hearing the real thing.

Class B

The next best thing to the very best sound reproduction; Class B components generally cost less than Class A ones, but most Class B components are still quite expensive.

Class C

Somewhat lower-fi sound, but far more musically natural than average home-component high fidelity; products in this class are of high quality but still affordable.

Class D

Satisfying musical sound, but these components are either of significantly lower fidelity than the best available, or exhibit major compromises in performance—limited dynamic range, for example. Bear in mind that appearance in Class D still means that we *recommend* this product—it's possible to put together a musically satisfying system exclusively from Class D components.

Class E

Applying only to loudspeakers, this "Entry Level" classification includes products that may have obvious defects, but are both inexpensive and much better than most products in their mid-price category.

Class K

"Keep your eye on this product." Class K is for components that we have not reviewed (or finished testing), but that we have reason to believe may be excellent performers. We are not actually recommending these components, only suggesting you give them a listen. Though in certain cases the report has yet to be published, the reviewer and editor sometimes feel confident enough that the reviewer's opinion is sufficiently well formed to include what otherwise would be an entry in one of the other classes, marked (NR).

1998

LOUDSPEAKERS • AMPLIFIERS • SUBWOOFERS • HEADPHONES

cannot therefore be regarded as a guarantee that it will continue to appear in this listing.

The prices indicated are those current at the time the listing was compiled (August 1998). We cannot guarantee that any of these prices will continue to be the same by the time this issue of *Stereophile* appears in print.

sion of the Symphonic Bombast A-123 in his review. ST demurs, however, saying that the current Mk.VIa makes his reference speakers "sound like the woofers are disconnected!"

We are not sympathetic toward letters complaining that the Symphonic Bombast A-123 that we recommended heartily two years ago no longer makes

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it into "Recommended Components." Where deletions are made, we endeavor to give reasons (there are always reasons). But remember: *Deletion of a component from this list does not invalidate a buying decision you have made.*

Individual reviewers mentioned by their initials are: Larry Archibald, John Atkinson, Lonnie Brownell, Martin Colloms, Anthony H. Cordesman, Brian Damkroger, Robert Deutsch, Shannon Dickson, Jack English, Michael Fremer, Corey Greenberg, Larry Greenhill, Robert Harley, J. Gordon Holt, Muse Kastanovich, Guy Lemcoe, Thomas J. Norton, Russell Novak, Dick Olsher, Wes Phillips, Robert J. Reina, Kalman Robinson, Markus Sauer, Donald A. Scott, Jonathan Scull, Chip Stern, Steven Stone, Sam Tellig, Stephen W. Watkinson, Peter van Willenswaard, and Barry Willis.

Turntables

A

Forsell Air Force One Mk.II: \$29,000 ☆

Sophisticated two-chassis, air-bearing Swedish 'table with thread drive and parallel-tracking, air-bearing tonearm. JS enthused over its 3-D image solidity, tight, deep bass, super-plush midrange, and "enormous palpability factor." Very similar Forsell Air Reference (\$14,500) lacks the air-bearing Flywheel drive system; it uses an internal motor and a silicone-rubber belt. (Vol.17 No.1)

Immedia RPM-2: \$4995

"This 'table has a way with rhythm and pace that is impossible not to notice," observed WP. "Images are incredibly stable, which does indeed mean that the soundstage is huge—not to mention filled with detail. ... Bass was deep and dynamics were spectacular ... As I listened I kept muttering, 'It's so big, it's sooo *biig*.' And it was." Turntable must be ordered for a specific tonearm. Price is with acrylic base; upgraded metallic base adds \$1000. (Vol.20 No.9)

Linn Sondek LP12 with Lingo power supply: \$3045–\$3120, depending on finish \$\$\$ ☆

Compared with the Valhalla model, the Lingo-equipped version minimizes the LP12's propensity for a slightly fat midbass, subjectively extending the low frequencies by another octave. The Lingo upgrade alone costs \$1450. The Trampolin suspension reduces the effect of the support. Cirkus bearing/subchassis, now fitted as standard, costs \$595 including labor as upgrade kit, and further extends and tightens the turntable's bass, leading to a Class A rating, according to MC, JA, and LG (as long as a good support is used, adds MC). Though CG feels that the LP12/Cirkus loses a certain something compared with the original version, he still concluded that "the LP12 ranks as one of the finest high-end audio products on the market today." "A deeper, more profound silence," enthuses WP over the Cirkus mod, adding that what stunned him was "the extent to which surface noise receded into insignificance." Superbly low measured rumble and excellent speed stability reinforce the feeling of maximum musical involvement offered by this classic belt-drive turntable. Good isolation from shock and vibration. While the felt mat doesn't offer the greatest degree of vibration suppression within the vinyl disc, what absorption it does offer is uniform with frequency. Despite flirtations with other decks, JA remains true

to the basic design he has used now for more than 20 years. (Vol.14 No.1, Vol.16 No.12, Vol.17 No.5, Vol.19 No.2)

Naim Armageddon LP12 turntable power supply: \$1250

A 430VA, low-impedance transformer designed to drive the Linn LP12 Basik turntable while isolating it from powerline noise. WP was enthused, citing the improved pace and energetic presentation of the music over his Valhalla'd LP12. "The snap and surge of the rhythms that propel the song along were better served," he asserted. However, this came at the cost of ultimate bass extension—a tradeoff that many would not undertake willingly (JA, for one). Highly recommended—MC agrees with WP that the Armageddon LP12 is a Class A turntable—but audition *before* committing your Linn to surgery. (Vol.19 No.2)

Oracle Delphi Mk.V: \$3100 \$\$\$

"Superbly machined and finished," says MF. "Airy and rich-sounding, with impressive focus and fine resolution of low-level details." He also found "the 'table's high-frequency performance was smooth yet detailed, indicative of outstanding speed stability and effective energy transfer from the motor to the platter." Turbo power supply adds \$550. (Vol.20 No.12)

Simon Yorke Designs Series 7 Precision

Analogue Disc Transcription System: \$10,000

This built-to-order belt-drive, suspensionless turntable is MF's current reference—and that of the Library of Congress. MF: "The complete system ... is a formidable analog playback system, a masterful work of visual and sonic art that's hard to fault. It provides a gloriously cohesive, always musical sound—a superbly balanced sonic picture that combines deep, tightly focused bass ... with extended, detailed edge- and etch-free high frequencies devoid of brightness or exaggeration. ... There's nothing "hi-fi" about the Yorke combo; it just sounds musically 'right' whether handed hard rock or Heifetz." Package including Active Vibrplane: \$11,500. (Vol.21 No.6)

Spotheim La Luce: \$18,500 with Spj tonearm

(See JS's review in this issue.)

VPI TNT Mk.IV: \$5000

Modular design allows owners of older models to upgrade easily and inexpensively, or lets the impecunious start with the TNT Jr. and upgrade as finances allow. Slightly on the warm side of neutrality, asserted MF, but "big, full, weighty, and rich." The massive 'table's speed stability and ultra-low noise floor "floated" the sound so far beyond the reality of a stylus in a groove, it liberated it from the mechanical world to the living, breathing, real musical world." WP, a long-time Linnie, feels the current iteration finally swings realistically and concurs with MF: Definite Class A. Flywheel adds \$1000. (Vol.19 No.11)

B

Rega Planar 9: \$2595

Refined improvement rung upon the Planar 3. MF praised its lively, exciting presentation, finding it superior to the Planar 3 in terms of focus, bass extension, and neutrality. Lack of sprung suspension dictates the use of some sort of anti-resonant base. MF was most impressed with the Planar 9 as a system incorporating Rega's RB900 tonearm and Exact cartridge. Those looking to mix'n'match, he felt, might be better served elsewhere. (Vol.20 No.8)

VPI TNT Jr.: \$3000

Capable of being upgraded in easy stages, the high-mass Jr. uses a simple Navcom suspension and, according to SS, is "absurdly simple to set up." It was a "blacker soundstage" than VPI's popular HW-19, he found, commenting that it had excellent low-bass extension and definition. Tripod pulley system, PLC (power-line conditioner), and new drive-belts for the TNT Jr. take it most of the way toward full TNT status. (That would require replacing the suspension—an \$800 option.) SS thought the changes "subtle but pervasive," particularly lauding the improved soundstaging. Knocking on the door of Class A. West Coast price is \$3100. (Vol.18 Nos.1 & 11)

C

Linn Sondek LP12 Valhalla: \$2150–\$2225, depending on finish ☆

The standard against which newer turntable designs have been measured for almost two decades, the Linn is felt by some to have some coloration, particularly in the upper bass. Latest version has a laminated armboard and Cirkus bearing/subchassis (\$595 including labor as an upgrade kit), which result in a considerably more neutral sound. It's harder to set up than most turntables, and is more likely to go out of adjustment, though with the latest springs, Trampolin suspension, glued subchassis, and Cirkus mod, it's now much better in this respect. (Low-bass extension suffers when the LP12 is not set up correctly.) Still sets a high performance standard, found WP—though it can certainly be bettered in one area or another, its balance of virtues is hard to improve upon. A version with a Basik power supply is available for \$1690. (Vol.7 No.2, Vol.13 No.3, Vol.16 No.12, Vol.19 No.2)

D

Music Hall MMF: \$299 with Goldring Elan cartridge

(See MF's review in this issue's "Analog Corner.")

NAD 533: \$449 with Goldring Elektra cartridge

(See MF's review in this issue's "Analog Corner.")

Rega Planar 3: \$695 \$\$\$ ☆

Rega Planar 2: \$495

Two synergistic mixes of no-nonsense deck with superb arm (included). Lack of environmental isolation may be problematic (see "Letters," Vol.16 No.10). However, MF crowed "outstanding performance" about the Planar 3. "It's quiet, dynamic ... free of obvious tracking distortion or other supposed analog problems, extremely well balanced top to bottom, offers very deep and reasonably tight bass, and will do no damage to your precious records." Then he threw down his analog gauntlet: "If you're an all-CD kind of audiophile, here's the kicker: I think the Rega 3 will blow your mind, even if you have a very high-priced spread." MF found the very similar Rega 2 an "incredible bargain," proclaiming it to have speed stability and an arm far better than the 'table's price should allow. The Planar 3 can be obtained in a dedicated version for playing 78s. (Vol.7 No.1, Vol.8 No.6, Vol.19 No.12, Planar 3; Vol.19 No.12, Planar 2)

Thorens TD 320 Mk.III: \$1080

While praising its build quality and value per dollar, MF lamented the 320 Mk.III's lack of rhythmic excitement and punch, as well as its loss of inner detail and lack of focus. (Vol.19 No.12)

K

Rockport Technologies Sirius II, SME Model 20, Well Tempered Reference Turntable, Wilson-Benesch Full Circle.

Deletions

Rotel RP-900 replaced by RP-955, not yet auditioned; VPI HW-19 IV not auditioned in too long a time to be sure of current rating.

Tonearms

A

Clearaudio/Souther Tri-Quartz Improved: \$2500 ☆

SS felt that the TQ's assets—elegant design, longevity, resolution, low-level detail, superb soundstage delineation, top-end air, and accurate midrange re-creation—far outweigh its relatively minor shortcomings of a reticence in the bass and a daunting setup procedure. "Mates synergistically with Clearaudio S-type cartridges," SS states. MF was not impressed. In his opinion, the TQ1 is

difficult to set up, fiddly, and mechanically suspect—he has concerns about record wear, among other things. But he allowed that, when mounted on the Clearaudio Reference turntable, the TQ1 “produced a big, downright intoxicating sound—rich and reach-out-and-touch-it transparent.” Clearaudio offers an upgrade for older arms to TQ1 status for \$600. Price is \$1000 when purchased with Clearaudio Reference turntable. (Vol.18 No.4, Vol.20 No.11, Vol.21 No.2)

Graham 2.0: \$2250–\$3000 depending on options
The most significant difference between the 1.5 and the 2.0 is the latter’s rigid mounting platform. (An SME-style mount version is also available; series 1.5 tonearms can be updated to 2.0 status by the factory for \$750.) “A major improvement sonically (in the bass) and mechanically,” writes MF. “The Graham 2.0 is one of the most neutral, revealing cartridge carriers you can buy, though I wouldn’t mind a bit more bloom and richness—a bit more generosity—in the mids and upper mids.” Purchasers should experiment with arm cables, which can make a big difference. Ease of setup and removable arm wand “make it the arm for those with multiple cartridges.” The Graham 2.0 is appropriate for use on a Linn Sondek LP12—the Graham LP12 three-layer armboard costs \$150. (Vol.21 No.2)

Immedia RPM-2: \$2495

This medium/high-mass damped unipivot tonearm is, for now, MF’s favorite; WP, too, is a big admirer. Sez Mikey, “It is...brilliantly designed and executed, and it sounds bitchin’!” Not for everyone, however. It must be mounted on a well-isolated armboard. Some will find the RPM2’s “just the facts” delivery lean, but WP thinks it’s just reporting what’s there, adding next to nothing of its own. Others may find it a bit too “fiddly”—changing VTA also involves changing VTF and damping. New “6 9s” copper wiring harness and grounding scheme, improves low level resolution, increases spaciousness, and quiets background even further, adds MF. (Vol.20 No.9)

Linn Ekos: \$2595 ☆

Cleaner-sounding than the Ittok (upon which it’s loosely based), the Ekos rivals the SME in overall neutrality while offering a somewhat brighter, more energetic presentation of the music. The treble is nevertheless superbly transparent. The Ekos also provides a much better match with the Linn LP12 than the English arm, which loses control of the bass when mounted on the Scottish turntable. MC also found the Ekos’s bass to be more tuneful and “open” than that of the original Ittok. Azimuth adjustment is not possible. Some users have reported long-term problems with the bearings; the sample JA bought has been okay in this respect. (Vol.12 Nos.3 & 4, Vol.13 No.3, Vol.16 No.6)

Naim ARO: \$2200 \$\$\$ ☆

“An inner balance and harmony consistent with the musical message,” says MC of this unipivot design. MS found the ARO to offer superb timbral accuracy, soundstaging, dynamics, and rhythmic integrity. He also found it less bright than the Linn Ekos, and better balanced in the bass than the SME V. WP concurs, ranking it high among the arms he’s auditioned, but cautions that the lack of any overhang adjustment dictates careful cartridge matching or the ability to drill new armboards with different radii from the spindle for each new transducer. Additional arm tops cost \$1250. (Vol.16 No.6, Vol.19 No.2)

Rega RB900: \$995 \$\$\$

Upscale version of the RB300 with superior bearings and mounting scheme. MF felt the ‘900 performed as well as tonearms costing twice the price, when mated to the right cartridge—said mating being constrained by the Rega’s lack of provision for VTA adjustment, which MF considers problematic depending upon the choice of cartridge. VTA raising spacers may alleviate the problem with some cartridges. Rega’s own Exact cartridge is designed to mate with the arm, thus benefiting from the arm’s added rigidity. (Vol.20 No.8)

SME Series V: \$3250 ☆

This beautifully constructed pivoted tonearm has an extraordinarily neutral midrange, with one of the lowest resonant signatures in this region (though DO feels the Graham offers slightly more midrange detail). It’s

easy to set up, and VTA and overhang are adjustable during play, but there’s no azimuth adjustment—something that DO feels to be a significant drawback. “The best bass performance on the market,” said SWW. LA concurs, using the V on a VPI TNT, but JGH, JA, DO, and LL feel that the whole bass range is somewhat exaggerated. Not recommended with the LP12. Some compatibility problems with cartridges having low height. A less versatile version, the IV.Vi (which uses Series V bearings and Magnan V wiring), appears to offer the V’s sonic virtues and more at a lower cost (\$1995 \$\$\$). (Vol.9 No.6, Vol.14 No.8, Vol.16 No.6)

Triplaner IV Ultimate: \$2550–\$2710 depending on termination, finish, and wiring options ☆

Superbly finished, handmade pivoted tonearm allows for VTA adjustment during play. A “robust, rollicking, Rabelaisian” sound, found SS, who also commented on its dynamics and drive. A richer balance than the Clearaudio/Souther Tri-Quartz Improved, but less well-defined imaging than the Graham, he felt. Current production is much changed from previous models, MF reports. The V has “added a damping trough, replaced a junction box with a single run of arm cable from the cartridge pins to the RCA plugs... ‘decoupled’ the counterweights... and changed the composition of the aluminum armtube.” Its internal wiring is now Discovery Cable. MF: “The arm’s overall presentation had a velvety smoothness, richness, palpability, and sense of relaxation that invited long-term listening...bass control, articulation, and extension were superb.... The Triplaner’s relative weak suits are image focus, three-dimensionality, and soundstage depth, though it delivers a big, wide stage.” (Vol.18 No.2, Vol.21 No.2)

VPIJMW Memorial tonearm: \$2300

Unipivot tonearm features vestigial antiskating, which disconcerted MF. Nonetheless, he enthused over its lush midrange, ultra-smooth top end, and rock-solid imaging and soundstaging. “Subjectively,” he observed, “it seemed to have lower distortion than any other pivoted arm I’ve heard, but part of that might be the result of its smoothest frequency balance. Inner detail was outstanding.” However, he added, “I think there’s a slight midbass exaggeration that may be part of the spreading warmth above this range, and which gives this arm its inviting midrange.” WP admires the arm, but suspects we have not seen its ultimate incarnation yet. Additional arm assemblies cost \$900. (Vol.20 No.1)

B

Rega RB300: \$425 \$\$\$ ☆

The Rega offers very good detail, depth, midrange neutrality, ambience, and precision of imaging, almost creeping into Class A. Works well with the Rega and Roksan ‘tables. The Audio Advisor also offers it as a package with the VPI HW-19 Mk.III and Jr. turntables. Lacks any form of height adjustment, however—VTA can be adjusted only by adding spacers under the base. (Vol.7 No.7, Vol.10 No.1, Vol.19 No.12)

K

Wilson Benesch A.C.T. One, JMW Memorial 12”.

Phono Cartridges

A

AudioQuest 7000 Fe5: \$2750

This more costly replacement—with boron cantilever and nonremovable body—for the excellent-sounding 7000nsx is less dry-sounding and not quite as “razor-sharp,” notes MF. He enthused over the remarkable low-end *omph*, richness, and sonic luxury. “Big, generous, and easy-sounding,” and possessed of an ample 0.4mV output, “while maintaining...resolution of inner detail.” However, he cautions, “greater midrange

liquidity and sense of ‘quiet’ background [is available] from other (more expensive) cartridges.” Correct VTA critical for optimum performance. (Vol.14 No.6, Vol.15 No.1, original version; Vol.19 No.4)

Clearaudio Insider: \$7500

JS fell *hard* for this pricey low-output moving-coil. “Perfectly transparent, neutral, and supremely musical... [it] always pulled the best out of the vinyl it traced.” He went on to praise the “quick and sure hand it displayed with transients and dynamics, the colorful palette, and the ease with which it threw up a soundstage,” concluding that it’s “the best cartridge in the world.” SD harmonizes: “Still the king.” (Vol.19 No.5)

Crown Jewel Special Edition: \$2650

Beautifully built low-output moving-coil cartridge that MF deemed “one of the most seductive and lush-sounding... I’ve heard in my system.” He further elaborated: “while its tonal balance leans slightly toward the warm, liquid, lush side of the spectrum, the Jewel offers a reasonably neutral overall frequency balance, combined with smooth high-frequency extension on top and solid, authoritative bass response on the bottom.” Likely to present an excessively warm portrayal if teamed with gear already headed in that direction, he warned, but overall “an extremely attractive combination of refined attributes aimed at the sophisticated listener.” Current version has a revised cantilever material—MF is working on a Follow-Up. (Vol.20 No.4)

Koetsu Urushi: \$4000

Retipping costs \$1800. (See MF’s review in this issue.)

Lyra Clavis Da Capo: \$1895 \$\$\$

“Demands precise setup,” cautioned MF, but offers superb focus, three-dimensional solidity, spatiality, detail, and air. However, he asserts, “Some will find the highs too forward and ‘zingy,’ the balance too lean and detailed, the bass too taut, not sufficiently luxurious-sounding.” Dynamic balance a touch “reserved”—due, possibly, to its 250µV output. Even so, “I loved it!” he concluded. (Vol.19 No.4)

Lyra Parnassus D.C.t: \$3495

Retipping costs \$1850. (See MF’s review in this issue.)

Transfiguration Temper Supreme: \$3800

MF and WP consider this the best they’ve heard yet, although 250µV output dictates quiet systems with lotsa gain. “Liquid and luxurious from the very highest to the very lowest frequencies,” declared MF of the previous version. “Relaxed detail that never overwhelms the musical integrity,” WP counters. They could probably go on for hours. Now distributed by Graham Engineering; current Supreme version uses Graham’s Special Silver Wire. Trade-up of old Temper costs \$1600. (Vol.19 No.7)

van den Hul Frog: \$2500

“[More] expensive cartridges are going to be hard put to justify their cost with the Frog around,” proclaimed WP of this moderate-output (650µV) moving-coil. “A healthy output can be a seductive thing... I was able to turn down my preamp substantially while maintaining high output levels, and crescendos and other climaxes gained considerable heft. The lower noise floor meant I could hear further into the recordings as well.” vdH estimates stylus life at 3000 hours—as much as twice the norm—and also offers retipping for \$500. (Vol.20 No.7)

van den Hul Grasshopper IV: \$5000 ☆

Now distributed in the US by Stanalog Imports, the hand-built Grasshopper IV differs significantly from earlier ‘hoppers and incorporates AJ van den Hul’s latest thoughts on cartridge design. Changes significantly during break-in, after which it is not as analytical-sounding as the Symphonic Line RG-8 but “balanced more toward the relaxed, rich, and musical,” decided JS. The vdH also features a “very wide and envelopingly deep soundstage.” (Vol.18 No.7)

Wilson Benesch Analog: \$3800

“You deserve a visceral thrill for this kind of money,” deadpanned JS. “You should find yourself exploring heretofore unknown nuances, even in the most familiar of recordings. That’s the pleasure of analog, and that’s the pleasure of the Analog.... Midrange textures were to die for, the highs sweet and beckoning, but quick and sparkly too. The bass was altogether

acoustic and 'vibratory,' as I seem to have written in my notes.... I haven't heard better [at the price], and it significantly outperforms the \$1500-\$2500 cartridges I've auditioned." (Vol.21 No.2)

Wilson Benesch Carbon: \$2800

Low-output moving-coil cartridge uses a carbon-fiber shell. MF found the Carbon "a fast, very detailed transducer offering superb extension at the frequency extremes and outstanding linearity in between." He also loved its "image focus, speed, and control throughout the audio band." Yet he wasn't comfortable with its (perhaps overly) vivid tonal color or ultrafast perspective—features that, he allows, make for exciting listening. A careful audition is recommended. (Vol.19 No.12)

Win Research SMC-10 Super MC: \$2500

"A winner," decreed JS. "It offers tremendous performance at a fairly reasonable price." The SMC-10 "had an overall sonic character that's easily described: *alive*, baby. The sound was always big, bold, fast, and electric." 330µV output may pose problems for some phono sections, in which case the Win Research MC step-up transformer (\$1500) "will easily deliver that slice of genuine high-end sound we're all after," said JS. (Vol.21 No.6)

B

Goldring Excel VX: \$995 \$\$\$

"I immediately liked the Excel's warm, relaxed, yet detailed sound," said MF. "It did an outstanding job of capturing the acoustic envelope—the spatial context surrounding instruments and voices on live recordings.... [Its] other strongest suit was capturing the textures of voices and instruments." Slight top-to-bottom grain did not detract substantially from MF's admiration. "A good tracker at 1.7 grams, extremely dynamic, detailed, yet rich, harmonically suave, rhythmically competent, airy and extended on top, taut yet warm on bottom, the Excel is a superb performer at any price, and a real bargain at \$995." (Vol.21 No.3)

Grado Reference: \$1200 \$\$\$

"The finest fixed-coil cartridge I've ever heard, and one of the finest-sounding cartridges I've ever heard—especially in the midrange—regardless of design," said MF. But it has some quirks: It was hard to optimally adjust overhang, and it can be susceptible to motor noise. Not as detailed or refined as the better moving-coils, "but what it did in the middle was so pure and right, and what it did on the bottom so dynamic and note-perfect (if not the last word in bass extension), I found myself listening to record after record long after I should have stopped." "Just misses Class A by not having the top-end resolution and air of the best MCs, but out-tracks all of them and doesn't require a headamp," he adds. (Vol.21 No.3)

Grado Reference Sonata: \$500

"Represents a leap of performance beyond the Platinum, and hints at what an expensive MC can do," said RJR. "Improved detail, transient speed, and decay, and improved hall sound were very noticeable.... No cartridge reproduces a female voice better than this.... It may be difficult to rationalize spending much more for a cartridge." He adds that "it competes with all but the best of today's moving-coils." On some turntables, hum may be audible at the end of records—check before buying. (Vol.21 No.6)

van den Hul MC-10 Special: \$1200

"Immediately distinguished itself... in one area: high-frequency purity and resolution," said MF. "The MC-10 offered the purest, most refined and resolved high frequencies, absolutely free of grain and grit." It was somewhat reticent in the bass, however, and "too polite for rock, outstanding for classical and jazz." (Vol.21 No.3)

C

Benz-Micro Glider: \$750 \$\$\$

"The aural pictures the Glider paints," LB effused, "are so good they really give you a glimpse into the original event." Citing the cartridge's presentation of detail, pinpoint imaging, and almost physical presence, he did cavil that some may find the midbass on the soft side of

accurate. "Powerful stuff," he said of one night's audition; "magic, in fact." Retipping costs \$400. Borderline Class B. (Vol.19 No.8)

Benz-Micro MC Gold: \$350 \$\$\$

"A real smoothy," MF proclaimed. A luxurious top end and a great sense of liquidity were compromised somewhat, he felt, by compressed dynamics. (Vol.19 No.12)

Grado Reference Platinum: \$300 \$\$\$

"The new Grado 'sound' is more neutral" than the old, RJR said. "Overall, the sound balance was natural and uniform, save for a slight midbass thickness.... An extraordinary value for entry-level audiophiles. "On some turntables, hum may be audible at the end of records—check before buying. (Vol.21 No.6)

Ortofon MC-15 Super Mk.II: \$225 \$\$\$

"A real sleeper," according to MF, "offering very neutral tonal balance—a bit lean, if anything—good ambience retrieval, fine extension on top without grain or glare, good control below, and impressive overall dynamics." For his taste, it tracked a tad heavily at 2.2 grams, "but it provided a quiet background from which the music emerged." (Vol.19 No.12)

Rega Exact: \$595

Hand-built MM *without* a removable stylus that MF claimed "will get your heart racing, that's for sure." The Analog Kid was knocked out by its explosive, energetic sound, breathtaking midrange purity, and transient snap. He was less fond of its "aggressive" top end and abundant low-frequency and midbass energy. Even so, he recommended auditioning the Planar 9 as a system incorporating this cartridge and concludes that "the Exact could bring a somewhat reticent system to life." (Vol.20 No.8)

Shure V15VxMR: \$275 \$\$\$

While the latest version of this venerable design didn't offer MF "all the air and space present on live recordings, or the kind of front-to-back layering of perfectly focused images I hear from the top-shelf moving-coils, and it didn't recover the small microbursts of energy that make music sound live," Mikey nevertheless concluded that, "if you're looking for music with a reasonably honest portrayal of the harmonic structure of the real thing, you'll get it from the V15." (Vol.20 No.7)

D

Ortofon X1-MC: \$135

High-output MC that MF praised for its "surprisingly good low-level resolution." Despite some graininess on top, "a very good performer for the money." (Vol.19 No.12)

Rega Elys: \$225

This MM cartridge, MF discovered, "offered high output, tonal balance, and good extension top and bottom." On the downside, "it accentuated surface noise and was less than exemplary at the very bottom." (Vol.19 No.12)

Sumiko Blue Point: \$195 ☆

Rather a woolly bass, due to the P-Mount/adaptor configuration, but a sweet balance lacking any nasality, thought CG of this high-output MC. (Vol.16 No.4, Vol.18 No.8; see also "Analog Corner" in this issue.)

K

van den Hul Black Beauty, Transfiguration Spirit, Benz-Micro Ruby Two, Clearaudio Aurum Beta, Koetsu Rosewood Signature Platinum, Linn Arkiv 2.

Deletions

Lyra Parnassus, Sumiko SHO Reference High-Output, Audio-Technica AT-ML150/OCC all discontinued.

Phono Accessories & Record Cleaners

Allsop Orbitrac 2 (model #77500) record cleaner: \$34.99

MF considers this indispensable for optimum vinyl

hygiene—he uses it to preclean records *before* using a vacuum-operated cleaning machine. Otherwise, he maintains, the machine's intake pads become contaminated and, in turn, contaminate every future record cleaned upon it. (Vol.20 Nos.1 & 4)

Audio Physic cartridge demagnetizer: \$399

MF found this expensive device most effective in maintaining that "like-new" quality of his MC cartridge. He recommends placing the stylus in the groove of a stationary record when using in order to center the coils in the magnetic field. (Vol.18 No.12)

CA 22D2 record brush

"When used in a conscientiously applied program of regular vinyl hygiene," MF asserted, "these brushes... are very useful for manicuring loose, dry dust from already cleaned records. I recommend giving even the cleanest record in your collection a once-over." (Vol.19 No.11)

Cardas Sweep Record: \$16

Inexpensive degaussing aid for cartridges that also, it is claimed, ultrasonically cleans stylus. The Record features blank, ungrooved areas that facilitate antiskating adjustments—or, for linear-tracking arms, level. MF found it effective, especially when considering its price. "Wouldn't be without it!" enthuses JS. (Vol.18 No.12)

DB Systems DBP-10 protractor: \$39.95 ☆

Fiddly but accurate guide for setting cartridge tangency. JA's and JGH's preferred alignment protractor. (NR)

Decca, Hunt-EDA, Goldring, or

Statibush carbon-fiber record brushes ☆

Properly used (held with the bristles at a low angle against the approaching grooves and slowly slid off the record), these are the most effective dry record-cleaners available. (JGH disagrees, feeling that they leave the dust on the record.) No substitute for an occasional wet wash. (Vol.10 No.8)

Discwasher record brush ☆

If you don't have a record-cleaning machine, the DW system will do an adequate job on relatively clean records, but won't get out the deep grunge, wrote JGH. If you begin to accumulate lots of gunk on your stylus after cleaning your record with an older DW brush, the bristles are worn out; send it back for resurfacing, or buy a new one. A high-torque turntable is required. (NR)

Express Machining "The Lift":

\$99.95 (chrome), \$119.95 gold-plated

Pricy mechanical device that lifts manual tonearms at record's end. "Once I had all of the parameters properly adjusted, it worked flawlessly and reliably," MF reports. Ah, there's the rub—getting it properly adjusted may well provide some heart-stopping moments as your tonearm goes flying through the air. (Vol.20 No.5)

Hi-Fi News & Record Review Test LP: \$25

Although MF was frustrated by the enigmatic instructions, he deems this an essential tool for analog setup. Available from Acoustic Sounds. (Vol.20 No.1)

K-A-B SpeedStrobe Digital Phonograph

Speed Readout: \$89.95

Easy-to-use strobe disc simplifies precision adjustment of turntable speeds from 33 1/3 to all of the variations on "78." "It's just fantastic," effused JS. "It looks cool, and it's a snap to perfectly set the speed." (Vol.19 No.2)

LAST Power LP Cleaner: \$32.50/ 3/4-oz bottle ☆

This small bottle of Freon-free cleaner is enough to treat 75 LPs. JE found just three drops sufficient to remove dirt, dust, and grime from garage-sale records, though he discovered that a subsequent wash with his VPI HW-17 was still required to reduce groove noise to acceptable levels. "A worthwhile companion to LAST's wonderful Record Preservative." (Vol.17 No.5)

LAST Record Preservative: \$36.50/2-oz bottle ☆

Significantly improves the sound of even new records, and is claimed to make them last longer. A 2-oz bottle contains 60 treatments. (Vol.5 No.3)

LAST STYLAST Stylus Treatment:

\$27/ 1/4-oz bottle ☆

Stylus treatment designed to reduce friction between groove and phono cartridge. Some manufacturers caution against it, claiming it migrates up the cantilever and attracts dust—thus clogging the armature. One reader



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suggests applying treatment to brush rather than stylus, which would reduce the possibility of overapplying. MF has found STYLAST effective, but expresses concern over possible cartridge damage. (Vol.18 No.12)

Lyle Cartridges alignment tool: \$15.95 \$\$\$

Inexpensive but invaluable—this sliver of mirror has alignment markings and a spindle cutout. Slip it into place on your platter and use the classic two-point grid system to make sure everything's aligned. The mirror is the trick—it allows you to sight the cartridge's position against the markings themselves. "An essential tool," declares WP. (NR)

Nitty Gritty Mini Pro 2 record-cleaning machine: \$809 ☆

Nitty Gritty 2.5Fi record-cleaning machine: \$579 ☆

Nitty Gritty 1.5Fi record-cleaning machine: \$509 ☆

The Mini Pro is a semiautomatic machine that cleans both disc sides simultaneously. The 1.5 is identical to the 2.5 but substitutes black wood-grain vinyl for the latter's genuine oak side panels. Instead of a vacuuming "tonearm," as on the professional Keith Monks machine, the NG cleaner uses a vacuum slot. Cleaning is efficient and as good as Nitty Gritty's Pro, at a significantly lower price, though it takes twice as long, cleaning each side of an LP in turn. While the vacuum-cleaning Nitty Gritty does a nearly equivalent job on dusty albums as the similarly priced VPI HW-16.5, CG felt that the VPI's hard-bristled brush did better with really dirty LPs than did NG's velvet one. He found the effect of both was to produce a less colored, more detailed midband sound from LPs, as well as provide the expected reduction in surface noise. (Mini Pro, Vol.8 No.1; 2.5Fi, Vol.7 No.5, Vol.8 No.1; 1.5Fi, Vol.17 No.5)

Nitty Gritty Model 1.0 record-cleaning machine: \$259 \$\$\$ ☆

Audio Advisor Record Doctor II: \$200 \$\$\$ ☆

Both of these machines (the latter is manufactured for Audio Advisor by Nitty Gritty) are manual units that offer the least-expensive way to effectively clean LPs. Record Doctor II differs from the original in that it has a roller bearing to make turning the LP easier when the vacuum-cleaning motor is on. The earlier model can be fitted with a roller-bearing accessory—available for \$17 including S&H from K-A-B Electro-Acoustics, P.O. Box 2922, Plainfield, NJ 07062-2922—which fits beneath the existing platter. The Nitty Gritty 1.0 is also available as the oak-finished 2.0 for \$305. (NR)

QR/DNM Design Ringmat Mk.II XLR turntable mat: \$90 ☆

RD found this paper/cork mat (available in three thicknesses) to both reduce groove noise and increase detail resolution when used on his Lingo'd Linn. ST had some initial difficulties with the cork rings detaching, but he found the Ringmat to turn his AR into a more detailed, more neutral-sounding 'table. Changes in the cork rings and their spacing result in "greater clarity, focus, slightly tighter bass, and a wider, deeper soundstage," according to ST, who proclaimed it "The only mat that matters." MF points out that, while it changes the sound of glass-plattered 'tables such as the Rega, not everyone will find the change an improvement. Now distributed in the US by Music Hall. (Vol.17 No.5, Vol.18 No.1, Vol.19 Nos.6 & 11)

Rega cartridge torque wrench: \$125

Expensive, but a must, MF felt, "for serious analog addicts and professional installers." Agreed, set ST, but "for God's sake be careful with this thing, especially with the new Grado wooden-bodied cartridges...best used with very strong-bodied cartridges—such as Rega's." (Vol.19 No.11)

Shun Mook record weight: \$1200 ☆

The best record weight JS has used on his Forsell turntable, "bar none." Ridiculously expensive, however. (Vol.17 No.2)

The Disc Doctor's Miracle Record Cleaner:

\$19.95/pint plus \$5 S&H

MF's favorite LP-cleaning stuff, in combination with the Orbitrac and the VPI HW-16.5. A quart of fluid costs

\$30.95 plus \$7.50 S&H; a half gallon costs \$49.95/\$10.50 S&H. LP brushes cost \$34.95/pair. Replacement pads for brushes cost \$9.95/4. (Vol.20 No.3)

Thor Audio The Phono-Burn: \$350

An MF fave. "Burns in phono stage and entire systems for those who can't wait, and especially for reviewers of analog gear." (Vol.21 No.10)

Townshend Audio Elite alignment gauge: \$35

Plastic cartridge-alignment gauge that frustrated MF as an initial setup gauge, but, he writes, "as a final diagnostic check on the quality of your [setup], it is indispensable and not expensive.... Once you're done [using it], you know where you stand in terms of distortion, not just geometry." (Vol.20 No.11)

VPI HW-17 record-cleaning machine: \$1000 ☆

VPI HW-16.5 record-cleaning machine: \$485 ☆

Clearly an industrial-quality machine of reassuring quality, the VPI '17 cleans one side at a time, semiautomatically, and is slower than the Nitty Gritty. "Best I've used," says LA. "A highly functional and convenient luxury," said AHC. Latest version has a heavier-duty vacuum system. The '16.5 is a manually operated version with a noisier motor. Adjusts automatically to thickness of record; gets hot quickly. Of the HW-17F, MF says "Fast, convenient, beautifully constructed, and can be used indefinitely without overheating, the fan version of the 17 is well worth the extra money for those post garage sale/record convention, analog orgies when only cleaning the whole pile will do." (HW-17, Vol.8 No.1, Vol.19 No.6; original HW-16, Vol.5 Nos.7 & 9; HW-16.5, Vol.17 No.5, Vol.19 No.6.)

Wallytractor cartridge-alignment gauge: \$85

Wally-VTA-Tractor: \$80

The cartridge-alignment device is specific to the tonearm you're using: If you use an arm for which there is no stock model, the company can manufacture a Wally-tractor based on measurements you provide. MF says this device is "easy to use, reasonably priced, and you'll know where your stylus sits (and where it *should* sit) all across the record. Highly recommended." The Wally-tractor is one of a range of Wally set-up accessories, including the Wally Skater and Wally Scale, all of which are recommended by MF. Distributed by Pro Audio Ltd. (Vol.20 No.11, Vol.21 No.5)

Winds ALM-1 stylus downforce gauge: \$599

Winds ALM-01 stylus downforce gauge: \$799

There are two models of this electronic stylus-pressure gauge: one measures in tenths of a gram; the more expensive one in hundredths. Built-in spirit-level a plus. "Absurdly expensive, but the last word in accuracy—especially the model that measures to the hundredth of a gram," MF sez. "If you can afford either, get one." (Vol.20 No.1)

K

A.R.T. graphite record clamp, Record Research Labs LP#9, Immedia Needle Nectar, and Clearaudio Diamond Cleaner stylus cleaning fluids, Benz/Aesthetix MC demagnetizer.

Deletions

Gruv-Glide II not used in too long a while.

CD Players

A

Audio Research CD2: \$3495

"Every time I thought I had a handle on what the CD2 did best," WP said, "I heard a new CD that emphasized some [other] aspect of musical communication, and the CD2 would turn out to be equally adept at that quality too. Duh.... the whole point of a high-transducer is to accurately reflect what it's been fed." And this, he reckoned, the CD2 did about as well as any of the current crop of state-of-the-art CD players. "If you crave the... blended sound [of] mid-hall, but also value precision

and amiability, then the Audio Research could be the final stop on your pilgrimage toward musical nirvana." (Vol.21 No.4)

Balanced Audio Technology VK-D5: \$4500

Even picky JS was spoiled by this single-box CD player with tubed output stage. "The VK-D5 turned out one of the most developed midbands I've ever heard from a digital product.... Imaging within the soundfield was corporeal, highly palpable, and presented with lots of body and presence. The upper midrange through the treble was detailed, liquid, and inviting—even transparent and incisive—all at the same time.... [Its] acoustic, high-quality bass goes down quite low enough, then slightly bulges out in the very stygian depths.... [although] it could have been a touch tighter." (Vol.21 No.5)

Bow Technologies ZZ-Eight: \$7500

"You can't have it all for \$7500," MF said, "But, as I found during my time with the ZZ-Eight, you can still have plenty!... Images were focused and layered front to back on a voluminous soundstage akin to what's attainable with good analog. Especially impressive were the boundaries between images and the surrounding air.... All in all, a mighty impressive performance with both HDCD and non-HDCD discs.... Class A all the way." (Vol.21 No.8)

Mark Levinson No.39: \$5995

Versatile CD player offers digital inputs (both TosLink and S/PDIF on RCA) and output, digital switching, and high-quality variable output in the analog domain. WP said it "reproduces music on the most exalted level." He also was impressed by its "fine ability to place musicians in space, surrounded by air.... What I noticed most was being drawn into performances—hearing passion where it had not previously revealed itself to me.... I just don't think our current standard [can] get much better than this." (Vol.20 No.11)

Meridian 508-24: \$2995 \$\$\$ ☆

"Detail, air, more of a sense of musicians' palpable presence," coupled with "crystalline clarity" and "harmonic richness," was how ST summed up the 20-bit version of this English player's sound. A Crystal delta-sigma DAC is used, running four DACs operating in dual-differential mode to offer true 20-bit resolution, and also boasts improved noise-shaping. ST praised its rock-stable images and analog-like sense of ease—"everything sounded so natural... harmonically right, tonally rich." He asserted, "the 'new' 508 is so strong, it belongs in Class A.... with players selling for three times the price." WP thought this single-box player with 24-bit DACs "is unquestionably one of the very best.... The player had incredibly natural balanced sound. Given a good recording, it sounded unbelievably open and free from artifice.... I was stunned by the Meridian's slam and deep-bass extension," said the big guy. A basic remote control is supplied; Meridian's System Remote costs \$99. (Vol.17 No.12, Vol.19 No.6, Vol.21 No.5)

Naim CD 3.5: \$2150

"A great player," WP said. "One with no real weaknesses and some very attractive strengths.... The player allowed me to hear far into the soundstage, but was not hyperdetailed in the way digiphobes assume when we say that—the balance between instruments and hall was perfect. And the timbre of each instrument was exquisitely rendered, both individually and in ensemble." Addition of FlatCap power supply (\$750) improved performance "in ways that, while hard to explain, make a great player even greater." (Vol.21 No.7)

Sony CDP-XA7ES: \$3000

TJN was quite taken by this player, because it "continued to sound better the more I listened to it. It's not perfect, but its strengths—a smooth, sweet, detailed sound with natural warmth and a fine, palpable presence—make such a strong statement that searching for flaws is a lot of work with little return." Well-built, too, he asserted, and "the equal of any player—separates or one-piece units—at any price." (Vol.19 No.11, Vol.20 Nos.1&7)

Wadia 860: \$7450

Versatile CD player offers digital volume control, digital inputs and outputs (TosLink, ST-optical, AES-EBU,

*"The magic of the HD 600s
is their midrange—a purity of tone...
that is quite special."
—Sam Tellig, Stereophile
February 1998*



*"WP, KR, and ST are unanimous
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—Wes Phillips, Stereophile
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Manufacturing Plant: Am Labor 1, 30900 Wedemark, Germany

and S/PDIF BNC). "Ultimately, how you'll value the 860 depends on how you intend to use it," said MC. "It's a definite success in all departments, clearly better in some than in others, and will also perform very well without a preamplifier. Yet its ultimate quality is achieved with the internal volume control effectively disabled... and by using a superlative, balanced-domain analog preamplifier." From his experience with the less-expensive 850, JA is not so sure about this last point. (Vol.21 No.2)

Wadia 850: \$4950

This single-box CD player with digital-domain volume control impressed JA as a good'un. "It was in the palpability of images that the Wadia scored—big time," he said, adding that "used balanced straight into the... amplifiers, there was a weight that had to be heard to be believed." But, he cautioned, "I occasionally got the feeling there was some mid-treble brightness" when the 850 was used with a preamp in the chain. If you can do without an analog preamp, however, "as long as your system is not itself on the bright side, the superbly constructed 850 is a CD player to be reckoned with." Digital input board adds \$995; digital output board adds \$495. (Vol.21 No.5)

YBA CD 1 Blue Laser: \$6000

Unusual two-chassis integrated player houses the analog power supply in a separate enclosure from the digital circuitry and, like the CD 3, employs a blue LED to bathe the CD in blue light. JS deemed it "a player of subtlety and nuance," singling out its "velvety midrange textures [and] a special kind of palpability." He concluded that it was "a little more easy to live with than I might ultimately prefer." RH noted that the unit was riddled with ergonomic idiosyncrasies and exhibited "poor bench performance, with severe de-emphasis errors, low channel separation, high noise levels, and an alarming amount of intermodulation distortion." (Vol.20 No.2)

B

California Audio Labs CL-10: \$1975

This five-CD changer with HDCD decoding impressed the heck out of RH with its "warm mid- and upper bass, laid-back presentation, and spacious soundstage." He also praised "the smooth mechanism, which performed flawlessly.... If your idea of fun is loading a player with six hours of music and letting the good times roll, the CL-10 is just the ticket." (Vol.19 No.11)

Denon DCD-1650AR: \$999 \$\$\$

"A honey of a player," said ST. "The low-level resolution is fabulous for a player that retails for less than \$1k. Bass extension and dynamics are mighty good too." (Vol.21 No.6)

Exposure CD Player: \$1995

MC "confidently recommended" this British CD player for "its simple, single-ended transistor analog circuitry and the fine sound it made." He called it an "unusually musical CD player that has very good soundstaging abilities, is quietly neutral but dynamically resolving, has an involving and pacy character, and is convincing and satisfying in the long term." Although he noted a slight treble texture, he did not feel it detracted substantially from his listening pleasure. The digital volume control is not recommended for serious listening. (Vol.20 No.11)

Krell KAV-300cd: \$3500

WP praised this player's "robust, big-boned sound. It captured the majesty of a full-blown orchestral crescendo or a shattering organ blast without a hint of constriction or compression.... Transients... were fast and startlingly crisp. And no matter how dynamic or congested the passage, the Krell was up to the challenge. Torture it as I might, I never made it whimper.... [Yet], as good as the 300cd was—and it was very good—it still lacked that last smidge of rhythmic ease that inhabits the very finest digital gear." Just misses Class A, he felt, but added that "On most systems... I can't imagine the KAV-300cd being the limiting factor." (Vol.20 No.12)

Myriad MC 100: \$1200

"Just a few years back, you would have had to spend

\$3000 to get this sound quality from silver disc," JA said. "Dynamics seemed excellent in general... but overall, the Myriad player was balanced on the polite side of reality." And "the Myriad's bass lacked weight in absolute terms... But the definition was excellent." Furthermore, "it does throw good space... this player gives good soundstage.... It is a well-engineered, well-made, excellent-sounding, thoroughly modern CD player." (Vol.21 No.1)

Rega Planet: \$795 \$\$\$

"A beautifully mechanically engineered product... Produces a rich, full-bodied, dynamic (but not overdynamically) sound," said ST. JA was also impressed, but noted it sounded "just a little tilted-up at the top end, which made it a better match for darker-balanced speakers and electronics." And perhaps it "makes CDs sound a little more reverberant than I suspect they should." In his opinion, "the Planet has a more involving presentation on rock music... On classical CDs, however... the Rega sound[ed] a little untidy" compared to more expensive players. "But at a whisker under \$800, it is an astronomical high-end bargain." Digital out allows for use as a transport. (Vol.20 No.6, Vol.21 No.2)

Ultimate Technology Ultech UCD-100: \$895 \$\$\$

"It's a nicely built, superb-sounding unit that significantly raises the standard of performance you can expect from a reasonably priced CD player," said BD. It "maintained its composure regardless of program material, keeping the images dimensional and distinct through the most complex passages with only a hint of soundstage compression during thundering crescendos.... It's an absolute delight and... an incredible bargain." (Vol.21 No.7)

YBA CD 3 Blue Laser: \$3400

Despite some quirks—phase inversion, eccentric ergonomics, unit doesn't automatically initialize discs—ST was taken by this top-loading CD player's "excellent detail and stupendous spatial resolution." "Blue laser" is somewhat of a misnomer, as the unit uses a blue LED to produce (it is said) the optical equivalent of dither. (Vol.19 No.12)

C

Cambridge Audio CD4 SE: \$529

"Sonically, the CD4 SE is a gem," ST said. "The player possesses an engaging, lively, open sound quality—a lot of air—with a smooth midrange and treble. It's fleet of foot, too, letting go of the notes... What makes the CD4 SE special is its superior resolution." Sam did grumble, though, that "Its mechanical build quality is uninspired." (Vol.21 No.8)

D

Arcam Alpha MCD: \$999

(See BD's review in this issue.)

Denon DCM-360: \$319

"Tons of detail for an affordable machine," MK opined. He was also impressed with its transient speed and living presence. Tradeoffs included some hash in the top end, slightly recessed midrange, and slightly boomy bass. Neither the digital volume control nor the headphone output pleased him—both added grain. (Vol.20 No.9)

NAD 515: \$499

This affordable five-disc changer exceeded RH's expectations of what is possible at \$499: "the 515 had superb image focus, good spatial resolution, a smooth treble, lack of glare, and satisfying bass.... The 515's compromises were in ways that were the least musically objectionable." Its coaxial digital output "provides an easy upgrade path if you add an outboard digital processor," he added helpfully. Can a \$499 changer be considered high-end audio? "If that CD player is the NAD 515, absolutely." (Vol.20 No.3)

Sony CDP-XA1ES: \$350

MK deemed the CDP-XA1ES smoother and more refined than much of its similarly priced competition, but somewhat weak dynamically. Digital out, a usable

(but not highly recommendable) variable output control, and a better than usual headphone output offer budget shoppers desirable flexibility. (Vol.20 No.9)

K

Theta Miles, Arcam Alpha-9, California Audio Labs CL-15 and CAL-20, JoLida JD 601A, Muse Model 9, Naim CDX.

Deletions

Linn Karik CD transport, Linn Numerik D/A processor, Sonic Frontiers SFCD-1, and Marantz CD-67 not auditioned in too long a time to be sure of current rating; Rotel RCD-950 replaced with RCD-951, not yet auditioned.

Digital Processors

Editor's Note: The sound of any particular CD transport/digital processor combination will be dependent on the datalink used—see "Bits is Bits" by Christopher Dunn and Malcolm Omar Hawksford, *Stereophile* March 1996, Vol. 19 No.3.

A

Camelot Technology Uther v2.0: \$2995 \$\$\$

"Simply the best DAC I've used to date," said KR. He elaborates: "When used without preamp and with its own analog gain control, the sound quality (not the cosmetics or the user interface) of this DAC qualifies it for Class A. In this twilight of the Red Book standard, I haven't heard a DAC that gets more from it." (Vol.21 No.4)

Classé DAC-1: \$3995

RH was "stunned" by the performance of this giant-killer processor, deeming it "a revolution in the price/performance ratio in digital playback." Its resolution impressed him mightily: "on a par with the Spectral SDR-2000 Pro... That's saying a lot for a [\$4000] D/A converter," he maintained. He also took note of its extraordinary overall sense of power and slam and a lack of strain with complex, high-level signals, emphasizing that "in terms of wide dynamic contrast and sheer slam, the DAC-1 was the best processor I've heard." Its only noticeable character was a slight edge to the sound in mids and treble that diminishes significantly during the long break-in period. MC is not as impressed, however, feeling Class B to be more appropriate. (Vol.18 No.12)

dCS Elgar: \$12,000

A remote-control D/A processor that's future-proof in that it will decode two-channel, 24-bit 88.2kHz and 96kHz recordings (although it does lack HDCD decoding). "The Elgar sounds simply superb and has a measured performance to match," JA gushed. While there were differences between the two units, Our Fearless Leader felt the Elgar was within striking distance of his long-time reference, the Mark Levinson No.30.5. However, he added, "the sound of 96kHz tapes reconstructed by the Elgar was simply more real. And that is what the High End is all about." (Vol.20 No.7)

Genesis Technologies Digital Lens: \$1800

RH dubbed this unique, RAM buffer-based, jitter-elimination/resolution enhancement digital device "the most serious attempt to date at reducing jitter in outboard processors." Finding its effects "truly remarkable," he heard "improvements in nearly every area of musical performance: soundstage size, bass definition and dynamic clarity, detail resolution, and timbral liquidity." LL demurs, finding in the soundstage enhancement "a consistency from one recording to another, often replacing the natural sense of space with one dictated by the Genesis itself." "Phooey!" snorts JA, who finds its clarifying effect on the high-jitter data output of his Panasonic 3700 DAT recorder nothing short of magic. But avoid the HDCD-compatible setting! (Vol.19 No.7)

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<http://www.meridian-audio.com>

Mark Levinson No.30.5: \$15,950 ☆

The original No.30 was *Stereophile's* "Product of the Year" for 1992. The No.30.5 update, which consists of a new data-receiver board incorporating an "Intelligent FIFO" memory buffer, is "a true reference-quality product," says RH. "Stygian bass" according to JA—"The closest thing to good vinyl playback," quoth he, which is why the '30.5 was used to master *Stereophile's* 1997 *Sonata* LP. (No.30, Vol.15 No.2, Vol.16 No.6; No.30.5, Vol.17 No.10, Vol.18 Nos.3 & 4.)

Meridian 518: \$1795

Unusual digital-to-digital processor that JA dubbed "the Swiss Army Knife of digital." It significantly reduces datastream jitter, performs digital gain and source selection, converts data with one digital word length to data with another—such as when transferring data from a 20-bit master to a 16-bit DAT or CD-R—and offers a choice of seven noise-shaping algorithms. JA used it to master *Stereophile's* recent CDs and concluded that it was essential to preserving the integrity of the 20-bit masters when transferred to a 16-bit medium. Much to his surprise, however, feeding 16-bit CD information through it and increasing the word length to 20-bit going into his Levinson '30.5 resulted in tremendous improvements. "It was goosebump city, even with recordings that usually strike me as just being notes by numbers," he goggled. (Vol.19 Nos.1 & 7)

Sonic Frontiers Processor 3: \$6999

(See SD's review in this issue.)

Spectral SDR-2000 Professional: \$8895 \$\$\$ ☆

RH emphatically states that "This is the state of the art in digital playback...excelling in low-level resolution, soundstaging, and harmonic purity." In his review, he added that "the SDR-2000 Pro redefines what we can expect from the compact disc format in terms of transparency, palpability, resolution of fine detail, and rightness of timbre—especially on HDCD." Setup can be tricky, however, and the SDR-2000 seems to work best with other Spectral gear, including the Spectral/MIT wires. Also a component of the Spectral/Avalon/MIT "2C3D" system. (Vol.18 No.5, Vol.19 No.1)

Theta DS Pro Generation V-A: \$3795 ☆

Price is for the single-ended version; the version with fully balanced DAC and output stages costs \$5595. Much better than the Generation III processor that it replaced in that it has a less hyped-up, more refined-sounding, more musically natural treble balance, yet the Gen.V still features Theta's traditional terrific sense of dynamics and low-frequency slam and extension. Not quite as smooth-sounding as the Mk.II Sonic Frontiers SFD-2, and a little less image depth, but SD still considers the Gen.V to be among the best D/A processors available. "Although the relative changes from its predecessor are small in scale, their sonic impact makes this upgrade a highly recommended step for owners of earlier models," he concluded, finding the new version's soundstage to be even better defined than the previous iteration's "famous, already immense soundscape." Calling the V-A beautifully balanced and a transparent window into every recording, he assessed its overall performance as "as good as I've heard." ST-optical input adds \$300; Single-Mode input adds \$800. Theta is adding 96kHz capability for \$300. (Vol.18 Nos.2 & 7, Vol.19 No.1)

Wadia 27i: \$8950 \$\$\$

RH insisted that the original No.27 (along with Spectral's SDR-2000 Pro and Mark Levinson's No.30.5) occupies a rung above the other Class A-rated processors, stating that "the 27 presented a palpability and immediacy I hadn't heard in my system before [owing to] the 27's extraordinary transparency, resolution, and natural reproduction of timbre. Instrumental images were *right there* in the room, vivid and alive." The 27's adjustable output—controlled in the digital domain—allows you to drive a power amplifier directly from the 27 without the need for a preamplifier. The downside? You must reconnect your preamp every time you want to listen to an analog source. However, RH concluded, "running straight into the amplifier took me a significant step closer to the music—the last step between great sound and goose-

bump-raising magic." JA's auditioning of the current "i" version, which can be slaved to a Wadia 270 processor via a separate clocklink connection, confirms the high Class A rating. (Vol.19 No.10)

B

Camelot Technology Dragon Pro 2 Jitter

Reducer: \$1495

"Should become the new standard for anti-jitter processing," said KR, but adds, "while the Dragon is a superior 'jitter box' (certainly as compared to the older DTI Pro), major improvements in modern transport and DAC design make its incremental improvements relatively less significant. With older hardware, it is a major tool." (Vol.21 No.4)

Digital Domain VSP/S: \$1495 ☆

Intended as a sample-rate converter, this slim unit also reclocks digital data and eliminates jitter. The sonic result is to render digital sound closer to analog, JA decided, and subsequently bought the review sample. RH found it to "snap the bass into tight focus," with bass guitar acquiring more dynamics, better pitch definition, and more detail. Some, however, will find that the bass balance will become more lean as a result. The VSP in its SRC mode rewrites each data word—which will, of course, render it nontransparent to HDCD-encoded data. Six digital inputs and four outputs—all on AES/EBU, ST, coaxial, and TosLink. Once Class A, the appearance in 1996 of the Genesis Digital Lens and Meridian 518 push it down in absolute quality, feels JA. (Vol.17 No.11; also see "Industry Update," Vol.17 No.1, p.39.)

Encore Ovation4: \$1995

The Ovation4 is a musical chameleon, MK discovered, as it offers two filter settings. On the flatter of the two, MK said, "the Ovation4 sounded a little bright...a bit on the lightweight side," although "the microdynamics were excellent...the bass was deep and tight, but especially tight." Switching to the second filter setting, "the sound became warmer." He concluded by praising its "high levels of resolution...portrayals of rhythmic intensity and microdynamics...harmonic body, gentle softness, even [its ability to convey] the passion of a performance." ST optical input adds \$200, balanced version costs \$2725. (Vol.21 No.1)

Muse Model Two: \$1700 \$\$\$ ☆

Borderline Class A! Impressively constructed 20-bit digital processor featuring unique jitter-suppression circuitry and "near ideal" power supply. SD marveled at its awesome bass definition and extension and its ability to delineate leading-edge transient information. Achieving this level of performance for less than \$2000 is truly remarkable, he posited—while noting that the passive current-to-voltage conversion used, which results in a meager 1V output, will preclude the use of passive control units. AES/EBU input adds \$300 to price; ST optical input, \$200; HDCD option, \$300; Bessel reconstruction filter that SD highly recommends, \$200. (Vol.18 No.7)

Parasound D/AC-2000 Ultra: \$1995 \$\$\$

"Sets a new performance benchmark for \$2000 converters," proclaimed RH, who was taken by its taut bass, solidity, and impact. While the midrange tended to be analytical, he found its overall presentation laid-back. Impressed by its musically engaging sound, "pristine midrange and treble, superb soundstaging, wide dynamics, and articulate bass," he found it apodictic that "if you buy any \$200 converter without first auditioning the Parasound, you'll never know how much musical performance is possible at this price." (Vol.19 No.4)

Theta DS Pro Basic III-A: \$2695

The original III impressed TJN with "good detailing, depth, and a lack of any irritating qualities—nothing artificial about the sound of this converter." If he were shopping in this price range, he'd put the Pro Basic III high on his list. WP concurs, finding the "A" revision of this flexible and substantial DAC a revelation, falling for its drive and swing. While its sound was detailed, he felt that it wasn't relentlessly so. He also was floored by its ability to layer soundstage depth and to extract the

last little bit of bass *oomph* from recordings. Single-Mode Laser Linque optical connection highly recommended, although costly. HDCD module adds \$459; ST-optical input adds \$300; Single-Mode Laser Linque adds \$800. (Vol.18 No.11, III; Vol.19 No.5, SGHT2 No.3, III-A)

C

Adcom GDA-700: \$1000

LG was quite taken with the HDCD-compatible GDA-700, finding it well built, dynamic-sounding, transparent, and musically involving. He also noted that it did a superb job of rendering the musical acoustic on his discs, through its resolution of low-level detail coupled with admirably transparent midrange reproduction. (Vol.18 No.12, SGHT2 No.3)

Audiolab 8000DAX: \$1195

KR finds this user-friendly DAC offers a smooth, wide-spectrum sound bordering on Class B performance. Via S/PDIF, it is just as detailed, but less aggressive than Audio Alchemy's DDE 3 in the HF: "Its unique alternative low-group-delay filter option is especially effective with older, harsher CDs, and its wide array of switchable inputs makes it desirable as the centerpiece of a system including CD, DAT, satellite video/audio, and digital cable radio," he notes. JA adds that the Audiolab's smooth highs are very welcome, given the harshness of so many CDs. Current DAX version HDCD-capable with claimed 24-bit resolution. (Vol.19 No.12)

Audio Note DAC-1: \$1295

"Recommended," determined RH, "but with some caveats. Although it is smooth and liquid, the DAC-1's softish bass may not suit all listeners. If you use the DAC-1 without the [Audio Note] OTO, be aware that its very high output impedance may cause problems when driving some preamplifiers." (Vol.20 No.3)

Monarchy Audio DIP: \$199 \$\$\$

The DIP demodulates an incoming S/PDIF signal into respective clock and data lines, which are separately re-encoded and clocked out by a high-accuracy oscillator. Can also accept digital data from one input type (TosLink, say) and output it as another (such as AES/EBU). In some cases, ST found, "everything improved—clarity, midrange, and treble smoothness, spatial resolution, focus, bass extension, and tightness. Transients were cleaner, quicker. There was a more natural decay of instruments in time and space, and not by a small margin." (Vol.20 No.6)

Musical Fidelity X-DAC: \$499.95 \$\$\$

"The X-DAC has raised the stakes in budget digital processors," declared RH, who was impressed with its "deep, authoritative bass," liquid and grain-free instrumental timbres, "clean midband and treble," and "spacious, well-defined soundstage." "If I had [\$500] to spend on a digital processor...the X-DAC would be at the top of my list." Offers HDCD decoding. (Vol.20 Nos.5 & 6)

Theta Chroma 396: \$750 \$\$\$

"A killer for the price," enthused RH. "Tight bass and well-defined soundstage. HDCD version recommended, along with simple modification to defeat 6dB digital-domain attenuation...You'll have a hard time finding a better-sounding converter for under \$1000." HDCD module adds \$79, ST-optical input adds \$300. (SGHT2 No.3, Vol.19 No.8)

The Parts Connection Assemblage DAC-2: \$499

MK thought this D/A converter kit provided "huge amounts of detail," albeit with a bright tonal balance. "It's clear that the DAC-2 surpasses the DAC-1 in almost every capacity, rendering the older converter obsolete...[and] revealing musical details on familiar recordings that I was previously unaware of." JA concurs as to the unit's superiority to its predecessor, but doesn't hear the unit as particularly bright. Class C+ was KR's verdict. Upgraded parts-package adds \$149; MK proclaimed the fully loaded DAC-2 "a best buy" possessing "strong microdynamics, expansive soundstage, [and] extraordinary resolution," and suggests that it knocks on the door of Class B. (Vol.20 Nos.1 & 7)

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D

California Audio Labs Gamma: \$195

"The Gamma is a little overachiever that performs beyond what one might expect from a DAC with a lepton-sized price," punned MK. "Very listenable...it failed to offend no matter what kind of recording I threw at it....it was completely free of any grainy or edgy sounds." However, he observed, compared with better, costlier designs, it had "reduced dynamics and only medium-strong bass." RJR concurs, noting that its DC power option makes it a killer addition to an automotive sound system—but points out that, even in that context, the quality of the transport can make a surprising difference in the sound. (Vol.19 No.11, Vol.20 No.5, Vol.21 No.1)

K

Muse Model 296, Wadia 270.

Deletions

Rotel RDP-980, Enlightened Audio Designs DSP-1000 Series III, DSP-7000 Series III, and DSP-9000 Pro Series III discontinued; Mark Levinson No.36S and No.36 replaced by No.360S and No.360, neither yet auditioned. PS Audio Ultralink Two HDCD and SL Three no longer available; Encore Pyramid 1 and Jadis JS1 Symmetrical not auditioned in too long a time to be sure of current rating.

CD Transports

A

C.E.C. TL 0: \$17,500 ☆

No-holds-barred belt-drive transport that JS found an unalloyed pleasure—"a device for those who have an appreciation for the finer things in life. The most overwhelming sonic characteristic [is] its ability to lift perfectly immense amounts of information...[remaining] eloquently and enormously hyper-detailed to the limits of my ability to hear." This, he found, was not without cost: meticulous setup and precise system matching are required. (Vol.18 No.5)

C.E.C. TL 1: \$4950 \$\$\$ ☆

Unusual, beautifully constructed belt-drive transport with a more laid-back, easeful sound than the Levinson No.31, and less forceful in the bass. Sounds sweet and extraordinarily musical, however, with a lush midrange. LA's reference. (Vol.16 No.7, Vol.17 No.5, Vol.18 No.5; see also RH's response to a reader's letter in Vol.16 No.9, p.25.)

Forsell Air Bearing Mk.II: \$9900 ☆

With this "upside-down" Swedish transport, the user places the CD on the turntable and lowers the laser pickup assembly onto it. The result, according to JS, is a true Class A sound, especially when using its coaxial data output. The lows were extended and tight, the highs airy and open, the soundstage gigantic and unbounded; "palp factor" was the highest JS had experienced in his system. LL finds the sound "lifeless," however. (Vol.17 No.5; see also Vol.18 No.7, p.93.)

Mark Levinson No.31.5: \$9495

Upgrade to the original No.31. "A 'reference' component if ever I heard one," insisted JA. "...a supreme example of a state-of-the-art, potentially future-proof CD transport." The improvement offered over the No. 31 transport was substantial, he opined. "With the '31.5 recovering the bits...I [heard] the best I have yet to hear from the 16-bit digital standard." "However," he cautioned, "even the cheapest upgrade to '31.5 status, replacing as it does everything other than the chassis and half the power supply, is quite expensive at a hair under \$3000." (Vol.16 No.6; see also RH's response to a reader's letter in Vol.16 No.9, p.25, No.31; Vol.19 No.10, No.31.5.)

Mark Levinson No.37: \$3995 \$\$\$

TJN compared this transport to the firmly ensconced

Class A No.31.5 and found the less expensive Levinson "a little more open and airy, with more apparent depth and a little tighter bass...It sounded better. To me." However, he pointed out that others might prefer the more relaxed presentation of the '31.5. The important thing, as he saw it, is "the price of state-of-the-CD-art is coming down." (Vol.20 No.1)

Sonic Frontiers Transport 3: \$6999

Price includes I/S-E cable. (See SD's review in this issue.)

B

C.E.C. TL 2: \$2995

SS lauded the TL 2's natural timbre—especially in its upper register—and air. "Its liquid midrange will appeal to the Bel Cantor crowd," he adds. He questioned if its performance justified the \$1000 difference in price over his longtime reference, but allowed that, with its slight sonic edge over the PS Audio Lambda, it "is the best transport I've had in my system." (Vol.19 No.7)

Meridian 500: \$2195 ☆

This British transport's bass was not as tight as that of the Theta Data Basic, found RH, but its treble was smoother. MC adds that he finds it not as good as the discontinued Meridian 200 when it comes to pace. But it formed a musically synergistic combination with the excellent Meridian 563 processor, striking just the right balance between immediacy and ease. JA enjoys the relaxing balance it produced with the dCS Elgar. (Vol.17 No.4)

Parasound C/BD-2000: \$1550 \$\$\$

This belt-drive transport "presented a delicious and ultraliquid rendering of midrange textures that was addictive," proclaimed RH. "[Its] sound is intimate, musically communicative, and immensely involving," but, he added, bass is somewhat softened. Careful system matching a must, as it may not suit all tastes, although it presented a synergistic match to Parasound's D/AC-2000. ST-optical output adds \$225. (Vol.19 No.5)

C

Rega Planet: \$795 \$\$\$

The inexpensive Rega works very well as a transport, both ST and JA found. However, JA points out that you need to use it with a very good processor to get better sound than it provides as a standalone CD player. (Vol.20 No.6, Vol.21 No.2)

D

Editor's Note: There are currently no Class D CD transports listed.

K

Meridian 800 CD machine, Muse Model Eight.

Deletions

Rotel RDD-980 and Theta Data III discontinued; Jadis J1 not auditioned in too long a time to be sure of current rating.

CD Accessories

AudioPrism CD Blacklight: \$39.95

ST heard gains "in clarity, overall smoothness, and an increase in dynamics" when he used this flexible, luminous CD mat on top of his discs. "Of all the CD accessories and tweaks I've tried, this one makes the most difference," he raved. "Way recommended." He cautions, however, that the Blacklight does not work in all players, must be carefully centered, and most emphatically should not be used in car CD players. (Vol.19 No.11)

AudioPrism CD Stoptight: \$19.95 ☆

Green, water-based acrylic paint for coating the edges of

CDs. The green color, which PvW found absorbs the laser's infrared wavelength, is presumably significant, but at present we have no idea why this tweak should so improve the sound of CDs. That it does so, however, seems to be beyond doubt to anyone with ears to hear (though no other single product has raised greater guffaws from the mainstream press). "This stuff works!" report JE, PvW, and JA, all of whom feel that it increases soundstage definition, improves the solidity of bass reproduction, and usefully lowers the level of treble grain so typical of CD sound. PvW and MC report that a water-based poster pen, the Uniposca from Mitsubishi, has a very similar effect. MC also notes that the CD should first be destaticized and its edges degreased before the green paint is applied. (Vol.14 No.11, Vol.19 No.10; see also DO's and TJN's WCES reports in Vol.13 No.3, ST's and RH's articles on CD tweaks in Vol.13 No.5, and "As We See It," Vol.18 No.7)

Bedini Ultra Clarifier: \$149.95

JS found this baffling CD tweak imparted "more air, a greater refinement in the sense of nuance in a particular performance based on my ability to see and hear into a more transparent soundstage... Images seemed more 3-D and palpable, and highs sounded more refined and sweet. Bass definitely improved—it was deeper and tighter, with better pitch differentiation.... This one is an easy-to-hear, fun-to-work, absolutely-no-downside tweak." "What he said!" concurs WP. JA demurs. (Vol.19 No.2)

Compact Dynamics CD Clean!: \$9.95 treats 250 CDs ☆

The essential accessory for those who frequent used-CD huts. (Vol.17 No.11)

Compact Dynamics CD Magic: \$14.95 treats 200 CDs ☆

Rescues badly scratched CDs. "For damaged CDs, this stuff really is magic!" enthuses JE. Discwasher and RadioShack market similar products. (Vol.17 No.11)

Discwasher CD Laser Lens Cleaner: \$17.95 ☆

PvW found this CD fitted with two tiny brushes in a spiral to be effective at improving the sound of his 18-month-old Marantz CD-80. (Vol.14 No.11)

Nordost Eco 3 Anti-Static Treatment: \$39.95/8-oz bottle

"Spray it on, wipe it off: a shot of this on CDs, electronic equipment, and cables will clean up a surprising amount of sonic smog," claims BW, BD and BM concur. WP adds, "Frustratingly audible when applied to the label side of CDs." He hates when that happens. (NR)

QR Design Statmat: \$39.95

This piece of thin plastic purports to be "an electrostatic control system" designed to disperse "the low-voltage hot spots that would otherwise build up during play." Whatever. According to ST, it "improved the sound of every CD I played in every player I had, sometimes quite dramatically." (Vol.20 No.12)

Theta Optigue: \$50 ☆

Refractive-index-matching goop that LL recommends for use with ST-type glass-fiber datalinks. "Must be used on the Theta's internal connections to get the full benefit," he advises. (See LL's Theta Data Series II review in Vol.15 No.10.)

Deletions

AudioQuest LaserGuide not tried in a long time.

Preamplifiers

Editor's Note: Apart from the Conrad-Johnsons, Audible Illusions, and CAT, all the Class A preamplifiers offer balanced outputs. And unless noted, the preamplifiers listed do not have phono stages. Note that the Z-Systems rdp-1 only accepts digital sources.

A

Audible Illusions Modulus 3A: \$2295 \$\$\$

Simple tube design "offers the highest level of perfor-

Introducing the new CL-20 DVD/CD player. So well-equipped, the remote needs 29 buttons. But you may not use them all. You see, the CL-20 is the world's first and only DVD/CD player with HDCD. Offering complete, uncompromising audiophile-caliber sound quality, plus high fidelity DVD video performance! Solidly engineered and built in the USA, the CL-20 offers the kind of features audio-video futurists demand. Including 24-bit/96kHz DVD audio and future upgrade capabilities. The new CL-20 from California Audio Labs. So advanced, the remote performs 29 different functions. Even two of the most important ones.

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mance at a bargain price," averred MF, who found the one-tube-per-channel line-stage transparent and dead-silent. Unit boasts mono switch, a rapidly disappearing feature that some audiophiles (WP among them) do not consider dispensable. Optional MC phono board has sufficient gain for a wide variety of cartridges—although users of extremely low-output transducers may wish to audition this unit at home before committing. "If the Modulus 3A isn't the finest-sounding preamp in the world, regardless of price," MF insists, "it is one of the finest." RJR concurs. Current version features a stepped attenuator and improved capacitors. Price is with MM phono stage; MC stage adds \$575; gold/silver faceplate adds \$45. (Vol.19 Nos.2 & 9)

Ayre K-1: \$5250

"Some equipment manages to conjure a sense of the realness of the musical experience," according to WP, and he says the K-1 qualifies. "First and foremost, it is prodigiously fast and neutral." He also lauded its transparency, seemingly unlimited dynamic range, and excellent soundstaging. "The phono stage, however, takes it to an entirely different level. Simply stated, the Ayre's phono stage is the best I've ever heard: quiet as a tomb and grainless as flowing water." Remote volume control adds \$250; phono stage adds \$1600. (Vol.20 No.3)

Ayre K-3: \$3250 \$\$\$

The K-3 solid-state preamp with optional phono board, MF said, "is a very close cousin to the K-1...[It] was dead quiet..." But what really got the Analog Kid's juices flowing was the phono section: "The K-3's vinyl playback performance was among the finest I've ever heard... bass performance was as good as I've heard... But what was more important than any one facet of the K-3's phono performance was the overall picture, which held together seamlessly and effortlessly from top to bottom." Remote control adds \$250; phono stage adds \$1000. (Vol.21 No.7)

Balanced Audio Technology VK-5i: \$3995

RD admired the dynamic life, precisely defined presentation of detail, and exciting immediacy with which this balanced tube design rendered his favorite discs. "A stellar performer," he maintains. It's as transparent as any minimalist line-stage, he points out, but offers sufficient features to make it a joy to use. He found, though, that it sounded very slightly veiled "when presenting instruments and voices in space." Cautious TJN recommends careful system matching due to highish output impedance. Current production incorporates improved passive components. "Every aspect of performance—transparency, detail, bass extension/quality, air, soundstaging, you name it—was better," RD applauded in his Follow-Up. Older units can be upgraded. Optional remote control adds \$500. (Vol.18 No.12, Vol.20 Nos.4 & 12)

Conrad-Johnson ART: \$14,995

This limited-edition, dual-chassis, remote-controlled tubed line-stage uses five dual triodes per side, these running in parallel to construct a single high-transconductance triode that can be run without a buffer stage or negative feedback. The downside is that things like channel balance are controlled by the performance of the individual tubes used—our sample had a difference between channels of some 0.3dB. This in no way bothered WP, who called the ART's sound "A whole new ball game... involving, rich in timbre and nuance, and staggeringly clear... It is without compromise." (Vol.21 No.5)

Conrad-Johnson Premier Fourteen: \$4395

"It's still possible to find products that can fill you with wonder," WP insisted upon hearing this tubed, remote-control line-stage. "Allied with the Fourteen's freedom from low-level noise was an astounding dynamic range." True to the music, tonally neutral, and a champion at the recovery of detail—Class A all the way, he avows. MC enthusiastically agrees. (Vol.19 No.12)

Conrad-Johnson PF-R: \$2785 \$\$\$

"The PF-R came as something of a shock," exclaimed MC. "I'd lay bets that [it] is the top preamp performer on grounds of natural dynamics, microdynamics, and dynamic expression as well as rhythm and timing..."

Above all there was a natural, unforced quality, open and free from glare or related coloration, that provided a harmonious balance." Despite its moderate price, Martin calls it "a Class A component I wouldn't hesitate to recommend to my closest friends." Inverts polarity from inputs to outputs. "Hearing is believing—C-J has definitely got it right!" (Vol.19 No.10)

Convergent Audio Technology SL-1

Signature Mk.III: \$5950 ☆

JE found the Mk.I version of the tubed CAT both harmonically accurate and able to endow music with "glorious midrange splendor." JS called it vividly balanced and "ruthlessly revealing." JS also felt that it excelled in the reproduction of dynamics and of a palpably real soundstage. The phono stage is quiet enough to work with the AudioQuest 7000nsx. Mk.III upgrade changes the tube complement, making it "definitely quieter," said RD. "More lively, yet better behaved than in its previous incarnation. There's a definite improvement in dynamics, and the top is more open and extended.... The resolution of fine detail—which was already one of the CAT's strengths—is better than ever." (Vol.9 No.7, SL-1; Vol.15 No.12, Vol.17 Nos.1, 9, & 11, Vol.18 No.12, Signature; Vol.19 No.12, Signature Mk.II; Vol.21 No.3, Mk.III)

Jeff Rowland Design Group

Synergy Series II: \$5500

Beautifully made solid-state remote-controlled line-stage whose "strong suits are clarity and low-level resolution," according to RD. Optional BPS-1 battery power supply, he added, transformed it. "More dynamic, more transparent, and an overall presentation that just sounds more natural, less 'electronic.'" Price is with conventional AC supply; BPS-1 battery supply adds \$3400. (Vol.20 No.12)

Krell KRC-HR: \$6900

WP asserted that "The Krell must certainly qualify as one of the truly great preamplifiers out there. It's well-built, well thought-out, and a joy to use.... In terms of tonal accuracy and low-level retrieval, it stands among the exalted few." Remote control, the ability to drive both balanced and single-ended cables, and a unity-gain throughput make the KRC-HR unusually flexible for a contender for state-of-the-art status. While WP observed that the KRC-HR did not offer the final word in soundstage presentation, its transparency, low-level resolution, and timbral accuracy were second to none. "Class A," endorses MC. Standard MC/MM phono stage adds \$650. Reference MC phono stage adds \$1250. (Vol.19 Nos.10 & 12; Vol.20 No.5)

Mark Levinson No.380S: \$6495

While the circuit, pcb material, and remote-controlled, MDAC-based, 0.1dB-step, balanced volume control are the same as those in the No.38S (as is the price), the substitution of 106 passive components left JA searching for words. "How do you describe something that's superficially identical to your reference, but better?... There was a musical rightness to the sound of the '380S that I consistently preferred. Stereo images seemed better defined, and individual sonic objects within those images had more of a rounded, fleshed-out character.... A small difference in objective terms, but one that is, subjectively, enormously important." (Vol.20 No.11)

Melos MA-333 Reference: \$3795-\$6995

depending on options ☆

Versatile tubed, three-chassis, dual-mono, full-function preamplifier with separate power supply and remote control. Price includes separate phono stage. Line-stage alone costs \$3595 with power supply and balanced outputs, \$4395 with balanced inputs. Phono stage costs \$2495 with power supply and balanced outputs. Latest iteration includes "Photentiometer" volume control—designed to keep the volume pot out of the circuit and minimize its effects on sound quality. RN felt this allows the preamp "to achieve a new level of tonal richness and absence of grain," greatly benefiting ambience retrieval, soundstaging quality, and long-term listenability. (Original Gold version, Vol.17 No.11; Vol.19 No.4.)

Meridian 518: \$1795

Digital "preamp" provides control of gain and source

switching. See "Digital processors." (Vol.19 Nos.1 & 7)
Nagra PL-P: \$9500

Full-function, battery-powered tube preamplifier with transformer-coupled MC phono stage and headphone output. "It so scrupulously avoided imposing anything of its own on the sound that, in effect, that absence of a signature became a signature itself," said JS. "A rather forward-placed soundstage... enhanced the sense that I was hearing what the mikes heard.... The Nagra's strength was the way it tracked the signal, bringing out all manner of inner detail." Also, "it was rather cool and analytic, yet that very clarity allowed all manner of tonal color to develop. Bloom, yes, but not too much—nothing artificial, no preservatives." (Vol.21 No.1)

Pass Labs Aleph P: \$4000

Well-built, remote-control solid-state preamp that SS avows stands as proof that "simpler is indeed better," praising it as the "quietest active preamplifier I've ever reviewed." Also drawing comment from the Stone from Boulder were its dimensionality, transparency, bass extension, top-end air, and low-level detail. In short, "the Pass ruled." "Will appeal to anyone who values clarity and accuracy over euphony and frills," he concludes. (Vol.19 Nos.2 & 10)

Sonic Frontiers Line 2: \$3295

"If one can find fault... it is only because of what it does not do," said KR of this vacuum-tubed line-stage. "It will not impose emphasis or richness or false dynamics, and if you expect to be impressed with it at a brief audition, you may be disappointed.... It's one of the most neutral-sounding components I've ever used." BD concurs, but muses that "It's odd that it doesn't evoke a stronger emotional response. Is it because it's so neutral... or is it that it somehow does everything we notice very well, but is missing something we don't necessarily notice?" (Vol.20 No.12)

Spectral DMC-20 Series 2: \$7595

When he auditioned this preamp in conjunction with the other elements of the Spectral/Avalon/MIT 2C3D System, RH was impressed by its beautiful interior layout and workmanship, commenting that "The execution appears to be meticulous, with an obvious attention to every detail." His assessment of the system made much of its overall transparency and high resolving power. Price includes phono stage (\$600) and balanced input stage. (Vol.19 No.1)

YBA Signature 6 Chassis: \$19,000

The price of this solid-state, full-function preamplifier, with dual-mono line and RIAA power supplies, left even the normally imperturbable JS gasping: "Can any component really be worth \$19,000?" Apparently so. "I found this to be a preamp of subtlety and refinement: all shading, gesture, and nuance. But it wasn't shy; micro- and macrodynamics were rendered with aplomb.... [It] was utterly transparent.... This finely wrought, naturally detailed transparency allowed a delicious sense of air to develop, much enhancing overall dimensionality." (Vol.20 No.12)

Z-Systems rdp-1: \$5000

"The tone control for the digital age," KR insists. "A fully transparent digital preamp, the rdp-1 is also a flexible and friendly parametric equalizer. The best way to correct tonal imbalance in speakers and source material." Only accepts digital sources. (Vol.21 No.7)

B

Audio Research LS-9: \$1995

"The first \$2000 solid-state [line stage] I've heard that cuts it," said SS, who felt its shortcomings to be relatively minor. It "added no noticeable electronic colorations, grain, or grit to the sound. Gone was that extra bit of brightness... that so often plagues solid-state electronics." On the plus side, excellent harmonic accuracy, bass definition, and weight. Low-level retrieval of detail and transparency suffered, however, in straight-wire bypass tests and in comparison with much more expensive preamplifiers. (Vol.21 No.1)

Bryston BP25-MC: \$2995

If you take this remote-controlled, full-functioned solid-state preamplifier home as a loaner, LG cautions, you'll

Miles

A one-piece CD player for the audio perfectionist

Theta Digital, the company that pioneered separate-component digital to analog converters and transports, now offers its first compact disc player, Miles.

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end up buying it. Optimized for quiet operation, which enables it to extract the utmost from its moving-coil phono-section, "the BP-25MC has world-class bass response and a midrange that can capture much of the natural instrumental timbres of chamber and orchestral music." Not the last word in transparency, he cautioned, but the remote "proved addictive." (Vol.19 No.10)

Electrocompaniet EC-4.5: \$1995 \$\$\$

Electrocompaniet EC-4.6: \$2995

Two similar-sounding solid-state line-stages. The minimalist EC-4.5 has only two line-level inputs—one balanced, one single-ended—while the EC-4.6 has six inputs. Although ST said "the sound is essentially identical [to the more expensive EC-4.6]... the less expensive unit may be a touch more transparent." Both sound "harmonically rich and full-bodied... I could have wished for a crisper, more incisive presentation, along with greater openness and airiness... [but to do so] I think you may need to spend much more." (Vol.21 No.1)

Krell KRC-3: \$3200

Solid-state, remote-controlled line preamplifier that impressed TJN with its "great sound, impeccable measurements, and, as high-end preamps go... affordable price. You can get a little better sound for a lot more money... but for most of us... the choice of the KRC-3 is a no-brainer." But "Class B," he ultimately decided. (Vol.20 No.5)

Lamm Industries L1: \$6990

Pricey but well-built solid-state line-level preamplifier with tube voltage regulation. WP found its full-bodied, hearty sound harked back to an earlier era, and lauded its "beguiling presentation of layered depth." He also admired its flexibility and "plethora of convenience features." The flip side of that warmth, however, manifested itself as an emphasis of midbass information that keeps this expensive preamp from scaling the heights of Class A. (Vol.20 No.8)

McCormack Line Drive TLC-1: \$1095 \$\$\$

This modest line-level control center's buffered FET outputs are unity gain or less, meaning that it will be unsuitable for use with insensitive amplifiers or with components that have a very low output. With a typical CD source, however, it offers superb transparency, very low noise, and an almost undetectable sonic signature. Ultimately, however, its balance is a little lightweight and lacking in dynamics, which might make it worth checking out the external power supply (\$395). Passive outputs sound even more transparent, but only in the context of an appropriately matched system. (Vol.17 No.7)

Melos SHA-Gold: \$1995 \$\$\$

This remote-control headphone amp/line stage really got WP's juices flowing. "As a headphone amp, I've never heard its equal," he gushed, adding that as a preamp "it disappears as completely as any I've ever heard." Remote volume control via Pho-tentiometer circuit, as well as passive, active, and active-balanced outputs, add to flexibility. "If you've got the gels, go for the SHA-Gold!" he shilled. More transparent than the SHA-1 but not quite up there with the MA-333 Reference. Borderline Class A. (Vol.19 No.7)

Polyfusion Audio 940: \$3250

"A contender," SS declaimed, that's possessed of a no-nonsense, matter-of-fact presentation in keeping with its pro-audio pedigree. "Audiophiles who value honesty and musical truth over eye and ear candy will appreciate the 940's rational approach to sound reproduction." SS found the 230 internal HDCD D/A converter module (\$1750) "virtually grainless" and capable of topflight lateral imaging, although he did note "slightly reduced definition" in comparison to his five-times-more-costly reference. MK was less impressed by the 230 D/A module. (Vol.20 No.3; Vol.21 No.1, 230)

Proceed PRE: \$1995

Had an appealingly open, sparkling, clean quality that held TJN's attention. Leanness through the upper bass and lower mids made its upper octaves seem more prominent, and the overall sound more laid-back than the best of the competition, he thought. Bass was deep and tight, and if solo vocals didn't hang quite as palpa-

bly in space as his reference Jeff Rowland Consummate, they didn't miss the mark by much. A DAS favorite. (Vol.18 No.5)

Sonic Frontiers Line 1: \$2495

Remote-controlled vacuum-tube line-stage "with as many inputs and features as anyone is likely to need," according to MK. "Its sound quality is hard to fault. It adds little enough coloration and distortion to signals passing through it that hearing and separating its characteristic sound from the sounds of the system is very difficult. This is what a good preamp needs to accomplish to do credit to the connected source equipment, and this the Line 1 can do." (Vol.20 No.11)

C

Home HeadRoom: \$599

Although primarily a headphone amplifier, the Home HeadRoom makes an excellent single-source preamp with power, accuracy, and finesse, found WP. "Bass response was excellent and there were gobs and gobs of gain... performs on an unusually high level," he enthused. (Vol.18 No.1)

McCormack Micro Line Drive: \$795

"Why should only the rich kids have all the fun?" asks WP, admiring the parts quality, styling, and transparent sound of this modestly priced unit, which can be used as a conventional preamp with selectable gain or as a passive control unit. While he deems it adequate when used with gain, he proclaims it "a contender for the best disappearing act in audio" when used as a passive unity-gain device, conceding that it shaves some heft off of recordings. (Vol.18 No.6)

Melos SHA-1: \$1195

Excellent soundstaging, a neutral, "utterly transparent" (says CG) midband, and powerful, driving low frequencies are offset only by a slightly dark overall presentation with a touch of upper-midband brightness (says JA, who still uses the sample he bought). Price is for silver or black finishes. The unit now has three (unbalanced) inputs. (Vol.15 No.10, Vol.17 No. 7)

Musical Fidelity X-Pre: \$299.95 \$\$\$

Tubed line-stage "may be just the ticket" in an inexpensive system, said ST. "It adds warmth, richness, and fullness of sound," although passive preamplifiers such as the Creek OBH-12 and Purest Sound Systems Model 500 "trounce the X-Pre in terms of transparency. Still, if you need an active preamp—for the gain, for the buffering, whatever—and money is tight, you won't go far wrong with the X-Pre." (Vol.21 No.1)

Musical Fidelity X-10D: \$199.95 \$\$\$

ST proclaimed this tubed buffer stage "the most cost-effective CD upgrade ever to come down the pike." Sez he, "The unit adds richness, dimensionality, and improves dynamics" on inexpensive CD players, smoothing out the treble and adding body to the midrange and bass. WP claims it works wonders on the output of his DSS receiver. While MK and JA agreed that the X-10D was helpful in driving long cable runs—especially at low frequencies—they found it reduced soundstage depth and transparency slightly, as well as slowing the music's sense of pace. However, its effect may be even more system-dependent than usual, so a careful audition is strongly urged. Be wary of 1dB gain in A/B comparisons. (Vol.19 No.11, Vol.20 Nos.6 & 8)

NAD 118: \$1599

This digital preamp (it also has analog inputs) enchanted KR with its versatility. "There are quite a few [CDs] whose frequency extremes need a bit of tweaking; the 118 did that without destroying the musical integrity of the midrange. It was wonderful to be able to get more out of those signals, and it certainly was addictive. Was it worth it? You bet.... The 118 let me improve the quality of the less-than-perfect sources with which we all live, and which, by Holt's Law, contain the best music." Considered only for its straight-through sound quality with digital sources, the NAD easily qualifies for Class C and pushes at Class B especially if mated with a superior external DAC, he adds. (Vol.21 No.7)

Sonic Frontiers Anthem PRE 1L: \$995

A versatile tubed line-stage. LB said, "If the word

'tubes' makes you think 'soft,' 'euphonic,' or 'rolled-off,' the PRE 1L won't fit your preconceptions.... Tonally, there just isn't much to say about [it], which is about the best thing you can say about most components.... The PRE-1L's lack of noise was particularly impressive.... Better sound than you have any right to expect at this price point—maybe even double." (Vol.21 No.2)

Source Components Electronic Harmonic Recovery System: \$449

According to ST, manufacturer John Sollecito "admitted it would be accurate to call the HRS an additional output stage." So what's it do? Sam said that it "has improved every system I've tried it with, both active and passive preamps. And I heard no loss of anything... The HRS helps flesh out the sound, give it more body and harmonic fullness.... Dynamics improved too.... The sound was richer, fuller, more dynamic. The soundstage was wider and deeper—more dimensional." (Vol.21 No.8)

D

Z-Man Audio Signal Enhancer: \$198

Similar to the Musical Fidelity X-10D in that it is designed to "buffer" op-amp output of inexpensive digital devices, although—perversely—it doesn't deal well with awkward loads. JA and MK commented on a smoothing and fattening of the overall sound with the Z-Man in the circuit, although such changes were extremely subtle and less so than those of the X-10D. Try before you buy. (Vol.20 No.8)

K

Muse Model Three, Boulder L-5AE, Jeff Rowland Design Group Coherence, Graaf 13.5B, Audio Research Reference One, Sim Moon P-5.

Deletions

Jadis JPL Mk.II and Cello Palette Preamplifier not auditioned in a long time; Threshold T2 no longer available; Marantz Model 7 Reissue discontinued; Perfectionist Audio Components Pro Reference III/10K due to doubts over availability.

Passive Control Units

Editor's Note: While many audiophiles feel that a passive control unit has the potential for offering the highest possible sound quality from line-level sources such as CD, it must be noted that the entire responsibility for driving the interconnects, the passive unit, and the power amplifier input is handed over to the source component, which may not be up to the task. Careful auditioning will be essential in putting together a musically satisfying system around a passive unit.

A

Carver Research Lightstar Direct: \$2195

Preamp can be used as either a passive balanced design boasting minimal componentry in the circuit, or as a single-ended active preamplifier. SS was not impressed with its performance as an active device, finding it "undistinguished... Class C." In passive balanced mode, however, it was "simply the best preamplifier I've ever heard for under \$2500." Careful system matching is necessary to derive that level of performance—the Lightstar is "unwilling" to drive high voltages into low impedances. That said, it is highly recommended for those with completely balanced systems. SS prefers its ergonomics to those of the Reference Line. (Vol.19 No.2, Vol.20 No.7)

McCormack Line Drive TLC-1: \$1095

Although the McCormack does have buffered active outputs, its passive outputs are the most transparent JA has heard, if a little laid-back in absolute terms. Highly recommended, says he. (Vol.17 No.7)



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Reference Line Preeminence Two: \$2095

This passive preamp has one direct and five switched inputs, but the direct input is always active in the signal path. Consequently, you must unplug the direct input when playing any of the switched inputs, or else suffer severe downloading of the source—bummer! Yet SS found its sound compelling: “In an ideal setup, with short cable runs, the Two could outperform... any other preamp I’ve heard. In many systems, its ergonomic foibles may make its use impractical: Class A sound with Class B ergonomics.” (Vol.20 No.7)

B

McCormack Micro Line Drive: \$795 ☆

“A contender for the best disappearing act in audio,” proclaimed WP of the MLD used as a passive unity-gain device, while conceding that it shaves some heft off of recordings. Sensitive to cable capacitance when used passively. Not far behind the TLC-1. (Vol.18 No.6)

Purest Sound Systems Model 500: \$325 ☆

RN feels its Bourne plot loses a little transparency, but confirms that this inexpensive dual-mono, four-input device “will get you most of the way there as far as a control center is concerned.” “A humdinger,” says ST. “It’s basic, it’s simple, the parts quality is high... everything else messes up the sound of my Meridian 508 by comparison... I use it in my main system.” Silver Edition Model 500 costs \$385, while very similar Model 1000 (\$495) adds more inputs and is more versatile. Silver Edition Model 1000 (\$568) has three pairs of Kimber RCA jacks (2 input, 1 output) wired with Kimber AGSS silver wire; remaining two jacks are sourced from Vampire and are wired with Kimber copper wire. (Vol.17 No.8, Vol.19 No.11)

C

Creek Audio OBH-12: \$325

ST said this remote-controlled passive preamplifier “isn’t really a preamp at all, but a switching box with volume control.” Fair enough. He was impressed by its transparency—“ie, in not robbing the system of resolution... while providing the convenience of remote control.” WP concurs: “Hard to believe anything this tiny could sound so good.” “It’s transparent enough to reveal the characteristics of upstream and downstream devices and cables,” said BW. “The price tag seems a bit high, but the minimalist OBH-12 is all the preamp many music lovers will ever need.” Long cable runs between the Creek and the amplifier are not advised, but, as BW observed, “one of the benefits of remote control is that you can keep your cables short.” (Vol.21 Nos.1 & 4)

Phono Preamps/ Moving-Coil Step-Up Devices

A

Audio Research PH3: \$1495 \$\$\$

This phono preamplifier’s “Luxurious, liquid midrange bloom and... iron-fisted bass control” had MF’s heart all a flutter. “Easy to use and endlessly flexible,” swooned WP. “Plenty of gain, low noise, and very high overload characteristics, plus adjustable resistance and capacitance loading,” added MF. “Highly recommended!” they chorused. Special Edition version currently being auditioned by Mr. Fremer. (Vol.19 No.9)

Balanced Audio Technology VK-P10: \$4000

“The P10 never failed to deliver the musical goods,” was JS’s assessment of this tubed phono stage. User-selectable cartridge loading, high and low gain settings, and built-in transformers attest to its flexibility. “The VK-P10 evinced no particular sonic characteristics of its

own,” JS concluded. “Its total transparency let the analog front-end and the recording do the talking.... This is one fine effort, worth every penny of its asking price.” (Vol.20 No.6)

Conrad-Johnson EF-1: \$1995

This phono preamp has switchable gain (40–52dB) and different-valued resistors can be added in parallel with its basic 47k ohms, 500pF input impedance. “A natural,” MC declared. “It does just what you want from a phono preamplifier... [made] the competition sound closed-in, revealed their shortcomings in the bass and a loss of focus and clarity in the mids, as well as a lack of speed and sparkle in the treble. It then completed the demolition of the competition by arguing a far stronger case for rhythm and timing, for overall excitement, and not least for musical expression.” (Vol.19 No.10)

Expressive Technologies SU-1: \$3500 ☆

A 35-lb step-up transformer that offers “utter transparency” and “exquisite resolution,” according to RH. JA agrees, finding his LP sound with the SU-1 to be deliciously transparent and musical. Unless used with Expressive Technology’s own interconnects, however, it may be impossible to avoid excessive hum pickup. Needs also to see a 47k ohm load impedance with low capacitance. Otherwise, the sound quality will be overly dependent on the preamp’s MM-input characteristics. A JS favorite. (Vol.15 No.7, Vol.18 No.1)

FM Acoustics Resolution Series 122: \$5500

Ultraflexible solid-state phono section that MF characterized as “a lot of nothing.” What do you get for \$5500, he asked? “No noise, no grain, no glare, no etch, no bloat, no bloom, no warmth, no cool, no compression, and no distortion I could detect.” He was floored by the unit’s “inherent delicacy, its ability to offer up warm, palpable, three-dimensional images from the very front of the soundstage to the rear corners.” Collectors with large collections of older records will appreciate the unit’s adjustable RIAA curve, which can transform the sound of their discs radically for the better, he proclaimed. (Vol.20 No.3)

Krell KPE Reference: \$2200 with external power supply

Solid-state phono stage that can be purchased as a drop-in board for the KRC-HR preamplifier (\$1250), or as a stand-alone component (\$2200). “It’s easy to configure for practically any MC cartridge available; it’s also quiet as a tomb and dynamic as a thunderclap,” WP enthused. “Add to that Krell’s superlative build quality and bullet-proof construction, and you have a contender for the state of the art. And when was the last time that was a bargain?” (Vol.20 No.6)

Linn Linto: \$1500

This solid-state, direct-coupled MC phono preamp, a JA fave, doesn’t offer a loading network—your sole input impedance choice is 150 ohms. Nor does it offer much in the way of gain matching—54dB and 64dB are your only options. But WP thought it was about the quietest phono section he’s heard to date, and raved about its natural timbre and powerful bass. PM cites its “sheer emotional impact” and comments, “It really does sound ‘direct-coupled,’ with an immediacy that’s quite different from in-er-face exaggeration, and it’s super-quiet too.” Even so, he reports, he’ll stick with his reference. (Vol.21 No.6)

Lyra Arion Transformer: \$1995

The Transformer offers 26dB of gain and is designed specifically to mate with Lyra cartridges, although it’s suitable for any MC of low internal impedance (6 ohms or less). “I loved it when I had it,” MF writes, “but it’s only when it was gone that I realized how much.” He called it “ultraquiet... offers outstanding retrieval of detail, and a purity of sound unique to transformers.” Lack of adjustable cartridge loading may disappoint some listeners. (Vol.21 No.1)

Mark Levinson No.25S: \$4390 ☆

Available in High- or Low-Gain versions, this MC line-level phono preamp features identical circuitry to the phono section of the No.26S. Price includes PLS-226 power supply. Needs careful positioning to avoid hum being induced into its circuitry from the power supplies of other components. LA’s reference. (NR)

Naim Prefix: \$750 \$\$\$

Unique phono section designed to mount *inside* the plinth of a turntable (specifically, but not exclusively, the Linn LP12), keeping the low-level signal path as short as possible. Choice of three power supplies allows for upgradability, but MC and SS feel that only with the Super-Cap does it offer Class A performance. WP concurs, but considers performance with the Hi-Cap unusually refined and articulate as well. Available in three basic circuits, which allows for some flexibility, although careful cartridge matching a must. Flat-Cap power supply adds \$750; Hi-Cap supply adds \$1500; Super-Cap adds \$4400. Price is for version with ARO connector, price with SME DIN-type connector is \$800. (Vol.19 No.7)

Plinius M14: \$3495

Solid-state phono preamplifier built more like a power amp, according to MF. He was beguiled by its sound, which he praised as “smoooooth, delicate, and refined overall, but especially on top, where the M14 skated with sharp blades on freshly Zambonied ice.” It offers convenient front-panel-selectable loading, but MF missed custom resistive loading and capacitive adjustment—features he felt a component at this price should provide. (Vol.20 No.9)

Sutherland PH-2000: \$6800

“Hideously expensive,” said MF of this solid-state phono preamp. “But its outstanding sonic attributes add up to the most attractive-sounding phono section I’ve had in my system. Build quality is superb, and the loading, gain, and capacitance socket setup allow infinite adjustability in a matter of minutes. On the downside is the noise—like ‘tube rush’—that becomes obtrusive only with the lowest-output moving-coil cartridges. But why should one have to put up with noise after spending almost \$7000?” (Vol.20 No.12)

B

Analogue Productions AcousTech PH-1: \$1200

WP called this solid-state MM/MC phono preamp “a winner when it came to producing dynamic shadings... [It] conceded little to the best in the areas of pace and rhythm... never imposed its own rhythmic signature on the music... [and] had incredible bass extension.” (Vol.21 No.6)

EAR 834P: \$895–\$1195

“This may be the phono stage for lovers of well-recorded classical works,” claimed RJR, noting its “seductive” unraveling of detail and ambience surrounding midrange instruments. There did seem to be a “fat muddiness” within a narrow range in the low frequencies, he allowed, and an overall dark perspective, qualities that keep the unit from a true Class A rating. Yet he held the 834P to be “a remarkable piece of work: a reference-quality phono preamplifier that would feel at home in a system of any price.” ST demurs, however. (Vol.20 No.7)

Lehmann Black Cube: \$695 \$\$\$

(See MF’s review in this issue’s “Analog Corner.”)

C

Musical Fidelity X-LP: \$249.95 \$\$\$

“Gets you in the ballpark, though it’s the bleachers (with a good view),” notes MF of this cute phono stage, which cosmetically matches the other Musical Fidelity pieces. Only available via mail-order with a money-back guarantee, so if you’re so inclined, you’ve got nothing to lose. (Vol.20 No.11)

NAD PP-1: \$129 \$\$\$

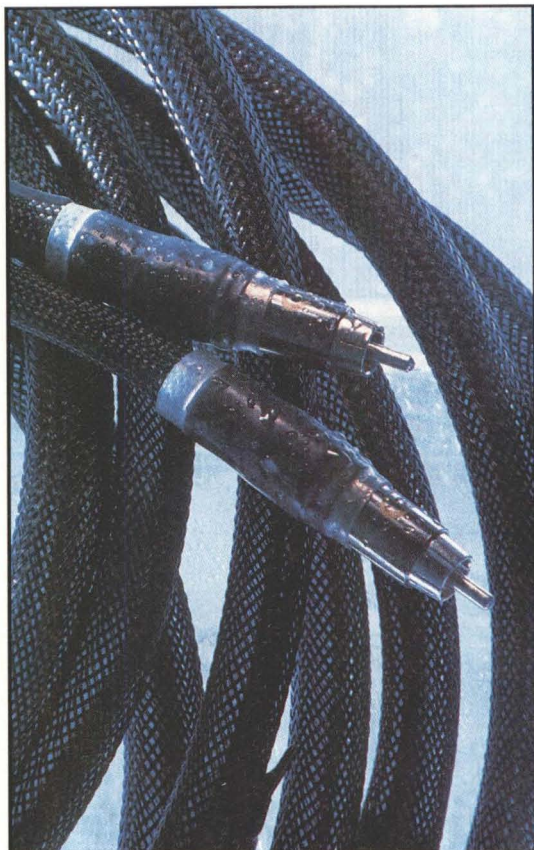
(See MF’s review in this issue’s “Analog Corner.”)

Rotel RQ-970BX: \$199.90 \$\$\$

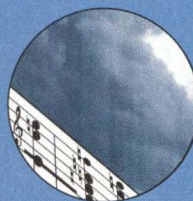
Good dynamics and a large, well-defined soundstage, claimed RH. “A pleasant surprise, and a real find in budget high-end audio.” (Vol.19 No.12)

K

Conrad-Johnson Premier Fifteen, Pass Labs Ono, Audio Research PH3SE, Sonic Frontiers Phono-1.



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Gold Acro dB45 Signature not auditioned in too long a time to be sure of rating.

Power Amplifiers

Editor's Note: Because of the disparity between typical tube and solid-state "sounds," we have split Class A for separate power amplifiers into two subclasses. Nevertheless, even within each subclass, Class A amplifiers differ sufficiently in character that each will shine in an appropriate system. Careful auditioning with your own loudspeakers is therefore essential. Except where stated, output powers are not the specified powers but rather those we measured into an 8 ohm resistive load. All amplifiers are stereo models, except where designated.

A (Solid-State)

Boulder 2050 monoblock: \$59,000/pair

Mammoth 1000Wpc solid-state monoblocks that JS declared "about as perfect as they come." TJN said they measured a dream, too — although each channel *should* be given its own 220V circuit. JS said they "sounded huge, powerful, and commanding. Their sheer grip and control throughout the frequency range was astounding... Retrieval of detail was extraordinary. The soundstage itself was wide, deep, and layered." WP concurs, but has to add that they also sounded light and airy despite all that brawn. And LA proved that some speakers (his Thiel CS5s, for instance) really can suck that much power out of an amp — he actually managed to drive 'em into thermal overload. (Vol.21 No.9)

Boulder 500 AE monoblock: \$10,790/pair ☆

Solid-state 500W design based on the late Deane Jensen's discrete op-amp module. Originally rated in high Class B due to some writers feeling the powerful Boulder to be rather lean-sounding; SS writes that it is "My benchmark for Class A performance.... While some amps have better dimensionality, sweeter top ends, or more raw power, few offer the overall no-nonsense performance of a Boulder 500 AE. It defines bullet-proof. Not only has my pair never blown their original AC fuse, but their protection circuits have saved innumerable drivers during five years of reviewer-level abuse." Superior bass punch and low-level detail are also noteworthy, he said. (Vol.14 No.10, Vol.15 Nos.4 & 7, Vol.20 No.11)

Bryston 7B-ST monoblock: \$4795/pair \$\$\$

This 500W monoblock captivated LG with its speed, drive, slam, and superb control of the mid- and upper bass. "Open, exciting, transparent, dynamic, effortless," he inventoried, calling the 7B-ST "an amplifier that can handle any loudspeaker load, play wide-dynamic-range music effortlessly, and excel in imaging and soundstaging." A must-audition for "anyone who needs a new amplifier for driving high-impedance electrostatic loudspeakers, or dynamic speakers that seem somewhat bass-shy." 20-year warranty! (Vol.19 No.10)

Forsell The Statement: \$30,000 ☆

"The Statement has the power to inspire," JS decrees. "You not only listen to music through the Forsell — you *experience* it as well." He finds it acoustically enveloping, with awesome bass capabilities and harmonically rich upper frequencies, achieving an appealing balance of sound, and sounding effortlessly musical at all times. Extremely sensitive to AC quality, he warns. TJN finds the test results unexceptional, given the amplifier's lofty price. JA points out old-fashioned crossover distortion in its output. (Vol.18 No.6)

Jeff Rowland Design Group Model 2: \$5800 \$\$\$ ☆

"How do you define value in an audio component?" queries RD, before deciding, "I can't think of a less expensive amplifier that fully matches the 95Wpc Model 2's collection of sonic virtues" — which he defines as an open and extended top end, stunning

transparency, dynamic liveness, and firmness of bass response. Capable, he claims, of making you forget about amplifiers and just listening to the music. The BPS-2 Model 2 battery power supply (\$2600) contains six 6V, 12 ampere-hour, maintenance-free Sealed Lead Calcium (SLC) batteries as well as a microprocessor-controlled circuit that monitors and regulates charging. RD found the differences between AC operation and battery power subtle, but "there's no doubt in my mind that the BPS-2 'works' under certain conditions; it allows the Model 2 to operate in a manner that results in a more musically satisfying listening experience." (Vol.18 No.8, Vol.19 No.6, Vol.20 No.7)

Krell Full Power Balanced 600: \$12,500

MC was smitten by this 600Wpc solid-state stereo amplifier's "huge, uncompromised peak loudness" and "incomparable power delivery," as well as by its transparency, state-of-the-art depth, and midrange "tubelike tonality." MC confidently declares the FPB 600 first among all Class A amplifiers: "Since that rating means 'the best we know,' I feel, in the light of this design achievement, the rest will have to be reclassified." WP concurs: "This amp just could recalibrate the scale." (Vol.20 Nos.4 & 12, Vol.21 No.1)

Krell FPB 250M monoblock: \$10,000/pair

LG said this 250Wpc solid-state monoblock "is one of the best-sounding amplifiers I have ever had in my system... its sound has it all: openness, effortless power, transparency, and no grain. It reinvigorates music, restoring its magic and joy." (Vol.21 No.6)

Lamm Industries Model M1.1 monoblock:

\$15,890/pair ☆

"[They've] got soul, baby," enthused JS of these hybrid 140W monoblock power amps; "the magic that makes it all worthwhile." He also admired "the enormous, extremely airy, and transparent soundstage they threw... The bass was nothing short of phenomenal... deep, taut, terrifically impactful, redolent with tonality and individualism. Make sure you take the time to hear a pair." (Vol.18 No.4)

Mark Levinson No.33H monoblock: 19,950/pair

"If I go on at length about how great the '33H 'sounds,' I'm forced to admit it *has* a sound," kvetched WP. "Soundstaging... was phenomenal — deep, detailed, holographic. Tonal balance was natural, and possessed purity and clarity galore. Low-level detail never leapt out at me, but existed naturally within the musical gestalt... Paradoxically, the No.33H exists on a plane where the news isn't about more, it's about less. It had no grain, no grit, no electronic character that I could detect. It had no 'warmth'... no MOSFET blur, no transistor etch, no tubey euphony... It was practically nonexistent — except that it did what it did better than anything else I've ever heard." JA's reference. (Vol.21 No.1)

McIntosh MC1000 monoblock: \$13,000/pair

ST deemed this 1000Wpc solid-state monoblock "one of the most delicate-sounding amplifiers I have encountered, whether tube or solid-state." He was impressed by its dynamic presentation and agog over its sweet midrange and treble: "there were times when I could swear I was listening to single-ended triode tubes. String tones were particularly clear, clean, and pure. There was no grain, grit, or spit... I can find nothing to criticize about this amplifier's sound... or its behavior." (Vol.20 No.8)

Pass Labs Aleph 0 monoblock: \$8000/pair ☆

With the exception of JE, the magazine's reviewers were pretty much unanimous on the virtues of this single-ended, 90W, MOSFET-output Nelson Pass design: true Class A. Neutral-balanced rather than euphonic-sweet in the manner of a classic single-ended triode design, the Aleph 0 offers extremely transparent, musically natural detail retrieval and superb dynamics. "A breakthrough product," concluded DO. SS bought a pair to use with Avalon Eclipse speakers — "Class A with a bullet!" sez he. Low input impedance mandates careful preamplifier matching. (Vol.18 No.3, Vol.20 No.11)

Pass Labs Aleph 1.2 monoblock: \$14,000/pair

Single-ended solid-state 200W monoblock power

amplifier drove SS to proclaim, "If you purchase any high-power tube amp without auditioning an Aleph 1.2, you've failed to fully investigate your options... They're hot, they're happening, and they're pretty damn awesome. But exactly *what* qualities make [them] so sonically stupendous? [Their] lack of any sort of electronic signature... midrange to die for... [and] unflappable suavity." (Vol.20 No.11)

Pass Labs Aleph 3: \$2500 \$\$\$

Single-ended, solid-state, 30Wpc, class-A stereo amplifier that caused MK to throw down the gauntlet: "I positively *dare* all of you to go out and hear this amplifier for yourselves — even if you currently own much more expensive amps." JA, intrigued, did; then *he* lauded its "wide, deep, detailed soundstage; a delicious presentation of recorded detail without getting in your face; a purity of tone that became addictive; and an ability to go loud... that belied the 30Wpc specification." Low sensitivity and power rating demand careful system/room matching, but magic has always required careful preparation. (Vol.20 Nos.4, 11, & 12)

Plinius SA-100 Mk.II: \$3995

This solid-state, switchable class-A/class-AB, 100Wpc design from New Zealand impressed WP as "one hell of an amplifier." He "fell hard for its airy, warm, detailed — yet decidedly easy to listen to — presentation." In the big guy's system the SA-100 was plagued by ground-loop problems, although it was quiet on our test bench. Careful home-audition is advised. (Vol.20 No.4)

Reference Line Preeminence One

Silver Signature: \$7895

SS found this solid-state 100Wpc class-A design "a delightful surprise... a solid-state power amp with both strength and finesse." SS was impressed by the Silver Signature's low-level resolution, visceral power, microdynamic retrieval, three-dimensionality, and depth. While he could not claim that it was grain-free, "the result was so fine, so well integrated, that the result was almost grainless." His conclusion: "It deserves to be heard." (Vol.20 No.7)

Spectral DMA-180: \$7995

Well-built 240Wpc solid-state design that was reviewed as a component of the Spectral/Avalon/MIT 2C3D system. RH discovered that "playing records and CDs I thought I knew produced an exciting sense of discovery as I heard their musical nuances and expressiveness fully revealed for the first time." He was also impressed by the bottom end's "stunning rhythmic agility" and "top-to-bottom dynamic coherence." (Vol.19 No.1)

YBA 1 HC Alpha: \$7000

RD was seduced by this 85Wpc solid-state amp, declaring it "Simplement musical... One smooth amp," he asserted, "... low-level dynamics were particularly impressive, allowing the communication of music's ebb and flow." He also praised its balance and overall detail. (Vol.19 No.6)

A (Tube)

Audio Research VT100 Mk.II: \$4995 \$\$\$

This tubed 100Wpc stereo amplifier really lit RJR's wick: "The VT100 is the first amplifier I've heard that reproduces the attack, resonance, and decay of a musical event equally well — and most important, presents the three combined as a single coherent musical event." Moreover, he found "the noise floor significantly lower than that of any other amp I've ever heard." This resulted in greater low-level detail retrieval, a complete lack of electronic haze, and a heightened sense of what he called "dynamic continuity" — meaning that gradations between dynamic extremes were continuous, not discrete. "The VT100 has touched me in a way no other audio component has, and in a way I didn't think any audio component could." (Vol.20 No.3)

Balanced Audio Technology VK-60: \$4950 \$\$\$

"Offers the natural rendition of instrumental/vocal timbres that the best tube amplifiers are known for, but has enough power to drive most speakers to very satisfying volumes," said RD, who was also impressed by the three-dimensionality of the soundstage. He found the 35W

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Stereophile, Vol. 21 No. 7

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BAT—it gives 55W at a relaxed 3% THD limit—“quite special when it comes to harmonic accuracy.” Bridgeable to monoblock operation. (Vol.18 No.12)

Cary Audio Design CAD-805C monoblock: \$8995/pair ☆

Single-ended triode 50W design. Driver tube and output tube have changed since DO's 1994 review (driver was EL34, now 300B; output was 211, now 853). “Power ratings can be misleading,” ST said. “The CAD-805C sounds big. Humongous, in fact.... It's about beauty... the palpable presence of the musicians. The exquisite low-level detail. The perfect timing of the attack and decay of each note. Above all, the truth of timbre and the sheer beauty of the music.” Bass could be better, and the “top end may be a tad rolled-off. But so what? The magic of the music is there.” Particularly with zero feedback, adds MC. “The space champ!” sums up Mr.T. (Vol.17 No.1, Vol.21 No.3; see also MC's article on feedback in Vol.21 No.1.)

Cary Audio Design SLM-200 monoblock: \$9995/pair

These tube monoblocks can be operated in triode (100W) or in ultralinear pentode (200W) mode. JS was taken by their deep, room-filling bass and startling dynamic delivery, but what really wowed him was the way they delivered the music's emotional component. “[They] reached me in that special way that only the best equipment manages to.” (Vol.20 No.5)

Cary Audio Design CAD 300SE Signature monoblock: \$4995/pair

“These are the magic Carys,” ST declared of this tubed 11Wpc monoblock. Of course, they use the 300B (“God's tube,” sez ST). “It's alive, man, *alive*—living, breathing with life and light in a way that only a great SET amp can.... Instead of being blown away by the music, I'm drawn into *all* the music—the quiet moments even more than the louder ones. I hear more of the score, more of the subtle nuances of the performances. And the harmonic richness!” (Vol.21 No.4)

Conrad-Johnson Premier Eight A monoblock: \$16,990/pair ☆

Massively powerful all-tube amplifier—measured clipping point was 193W into 8 ohms—that occupies pride of place in JE's system. “A tube-lover's dream come true”: electrifying dynamics and the best bass JE has heard from a tube amplifier, coupled with superb soundstage air and presence. Output tubes are 6550As. An MC favorite. (Vol.17 No.12)

Conrad-Johnson Premier Eleven A: \$3495 \$\$\$ ☆

While the original version of this beautifully made 70Wpc tube amplifier failed to light ST's fire, MC felt that, while its strengths may be subtle, the Eleven should not be underestimated. Current “A” version incorporates minor modifications to make this Class A amp sound even *better*, thinks WP, who cites an increased sense of slam and articulation as the primary improvements. JA was impressed by the natural and unwavering soundstage, and finds the unit a must-audition for those in love with the human voice. (Eleven, Vol.17 Nos.2 & 10; Eleven A, Vol.18 Nos.8 & 9, Vol.19 Nos.3 & 8.)

Graaf GM 200 OTL: \$12,500

Thoroughly modern 200Wpc tube OTL amplifier that JS declared “capable of conjuring up stunningly beautiful music.” “You couldn't call the GM-200 a ‘sweet’ amp,” he mused. “It's got too much of the crystal-clarity thing going. Yet... within that clarity and purity of sound I heard all the colors and resonances of the musical rainbow.” And despite common knowledge that OTLs don't deliver bass, “the bass could sound positively menacing.” (Vol.20 No.9)

Jadis JA 200 monoblock: \$25,995/pair ☆

A superb tube amplifier offering an honest 130W that, according to DO, outdistances its competition primarily in the area of soundstaging, where it unfolds a panoramic and rock-solid spatial impression of the original recording venue. Although harmonic textures are fluid in the best tube tradition, DO obtained the sweetest mids by substituting good EL34s for the stock 6550s; JS likes Svetlana 6550Cs, with Gold Aero 12AU7s (German RTFs) and Gold Aero 12AX7s

(Platinum grade) input tubes to displace the Gold National 12AU7s. This amp does not sound romantic, cautions DO, who finds that the lack of flash through the lower mids argues for a mating with a warm-sounding front-end. Although DO tried various line conditioners, JS found the Jadises to give of their best when plugged straight into dedicated wall outlets. Read his Follow-Up for the full tweaking route. (Vol.16 No.11, Vol.17 No.3; see also JS's review of the Timbre TT-1 in Vol.17 No.4.)

Jadis SE300B monoblock: \$13,500/pair

These SE triodes generate a “beautiful tonal palette and [a] giant acoustic,” opined JS, who felt not so much that they replicated the sound of the master tape, “but actually transcend[ed] the mechanics of reproduction to the acoustic event itself.” Their balance of sound “is stunning in its total naturalness, ease of presentation, exuberance, and nuance,” he said. All this and 10Wpc, too, “but it sounds like much more,” affirms ST, who was quite taken by their remarkable sense of spaciousness as well as their presentation of low-level detail and air. ST exulted, “such is the glory of Jadis that all of this detail is rendered in the most musical manner imaginable.” TJN, uncomfortable with the bench results, recommends careful audition before purchase. (Vol.19 Nos.1, 2, & 3)

Manley Reference 440 monoblock: \$12,000/pair

Manley Reference 240 monoblock: \$9000/pair

These very similar high-powered mono push-pull amplifiers can be switched to either triode or pentode operation, and provide for adjustment of global feedback and rolloff of ultrasonic frequencies. As a result, JS found the 440 to suffer somewhat from multiple-personality syndrome. However, he did find its presentation musically inviting and gorgeous-sounding under the right conditions. Rated around 400W in tetrode mode, in triode mode the 440 still manages to deliver 160W into 8 ohms. The smaller 240 monoblock “excels at transmitting the raw emotion and live energy of live music,” claimed SS. “Damn good.” (Vol.18 No.12, 440; Vol.19 No.5, 240.)

Manley SE/PP 300B monoblock: \$5500/pair

Amp can be used in push-pull or SE configuration—and can be switched back and forth while playing. Also features adjustable global feedback. ST enjoyed them, finding them capable of driving speakers other SE amplifiers could not. Comes “very, very close” to the sound of costlier amps such as the Wavelength Cardinal and the Jadis 300B. (Vol.19 Nos.1 & 2)

Quicksilver M-135 monoblock: \$6500/pair

Handsomely designed 135W monoblock that can use a wide variety of output tubes—although ST preferred the sound of EL34s. “It's classic tube,” he asserts: “smooth, sweet, dimensional, and powerful as hell.” Powerful but liquid at the same time, he tells us. Bass is full, but not tight by solid-state standards, and he would not recommend open floor placement to parents of toddlers, due to sharp corners on faceplate. His conclusion: “The best pentode amps I've had in my system.” However, MK found the Quicksilver warmer-sounding and more veiled than the Pass Aleph 3. (Vol.18 No.12, Vol.20 No.4)

Sonic Frontiers Power 2: \$4995

This 110Wpc tube power amplifier impressed RJR with its build quality. “Sonic Frontiers is fanatical about providing very high parts and construction quality for the money.” Also impressive, he noted, were its “exemplary dynamics... superb resolution of inner detail, and... realistic soundstage presentation.... Its natural perspective was very easy to listen to: relaxed but not slow, laid-back but not rolled-off.” Its “sunny and warm” disposition may strike some listeners as too much of a good thing, but overall, RJR assessed the Power 2 as “one of the finest-sounding amplifiers I've ever had in my home.” RD seconds the Class A rating, while TJN points to the very low output impedance as being a bonus. (Vol.20 No.5)

Transcendent T8 OTL monoblock: \$6995/pair

This output-transformerless monoblock amplifier, which can deliver 80W into 8-ohm loads (50W into 4 ohms), had JS in thrall. “Clarity in perfect union with

musicality, not one at the expense of the other, as is often the case,” he breathed heavily. “The midrange was just beautiful, integrating perfectly with the rest of the frequency spectrum, alive with fine detail, harmonics, and realistic transient snap.... The bass sounded large and in charge, always in perfect control.... They were, at all times, effortlessly musical.” Careful speaker matching a must, as with all OTL designs. (Vol.20 No.11)

VTL MB-1250 Wotan monoblock: \$27,500/pair

Behemoth two-storey, tubed (24 6550s per side!) monoblock that delivers 600W in triode or 1200W in pentode. JS found significant differences between the latest version and the original samples he reviewed—and the latter were good enough for inclusion in Class A. There are changes in the chassis construction, power supply, circuit boards, and grounding scheme. The bass is now tighter and deeper. JS raved: “Subtle and refined? Absolutely! Grainy? NOT! Power to spare? By the boatload! Tonal shading and color? First-class! Midrange magic? Nothing but the best!” He did go on, but you get the idea. (Vol.19 No.10, Vol.21 No.6)

VTL MB-750 Signature monoblock:

\$14,490/pair

Vacuum-tube monoblock amplifiers with switchable 750W tetrode/350W triode push-pull output stage. Power was an aphrodisiac for BD: “It adds a dynamic punch and precision that injects music with more of the snap it has live. Sharp transients, subtle dynamic shadings, thunderous crescendos—they're all reproduced effortlessly and accurately. Images are detailed without being overblown or overetched; they're wonderfully three dimensional, and firmly fixed within a sound-stage and acoustic that draws the listener into the original space.” However, he added, they're “shaded a bit toward the romantic, or warm and liquid side of transparency... [and] lacked the *n*th degree of refinement in their reproduction of low-level detail.” (Vol.20 No.12)

Wavelength Audio Cardinal monoblock:

\$5250/pair

Wavelength Audio Cardinal XS monoblock:

\$7500/pair

JS was entranced by the openness, speed, and treble clarity exhibited by the XS version of this SET amplifier. Particularly impressed by his level of musical involvement, he mused, “How easy it seemed to reach into, to caress, to feel, to understand the music I heard.... I came to understand that this warm and welcoming internal fireworks—single-ended's Unbearable Lightness of Being—breathed the very life into the sound.” ST marveled at the basic version's truth of timbre and harmonic beauty, but found it a tad slow-sounding. TJN groused that the test-bench performance might have been acceptable in 1940 but seemed mediocre for a contemporary design. He allowed, however, that measurements appear beside the point with this sort of design. (Vol.19 No.1)

A (Integrated)

Cary Audio Design CAD-300SEI: \$3995 ☆

Stereo, single-ended, tubed, integrated amplifier related to the Cary 300SE monoblock. Casting an eye toward the measured response of the 300SEI, RH rapturously exclaims, “My head tells me the Cary can't be any good; my ears and heart say this is this most involving and communicative amplifier I've heard.” “It's actually a tone control, and an unpredictable one at that,” JA grumps (though he will admit under pressure that the sound of his B&W Silver Signatures driven by the Cary was first-rate). WP got great sound using it to drive ProAc Response One SCs. RH regards the ultra-smooth, liquid sound of the 300SEI to be world-class, manifesting a warmth and beauty unmatched by any electronics he's had in his system. Output of 11Wpc tops, limited dynamics, somewhat shelved-down treble region, and, shall we say, *idiosyncratic* test results demand extensive auditioning with your preferred loudspeakers before purchase. (Vol.18 No.9)

Jadis Orchestra: \$2495 \$\$\$

40Wpc tube design (employing EL34s) that ST called

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"un vrai Jadis." Line-stage is passive (no tape loop or phono section is provided). Parts quality is high: the transformers are wired with OFC, there are no circuit boards—everything is hard-wired, and the tube sockets are ceramic. "Really does sound like an orchestra—full-bodied, harmonically rich..." ST says. He also praised its bass extension and dynamics. However, the bass could have been tighter, and the amp isn't the last word in low-level resolution. "A little price here," Sam concludes, but "a very fine amp nonetheless." (Vol.20 No.11)

Krell KAV-300i: \$2495 \$\$\$

Compact 150Wpc integrated amplifier that has "fine depth and surprisingly good transparency," according to MC. Well-balanced sound includes good focus, stable imaging, and satisfactorily deep bass, allied with "above-average slam." Dynamics, gauged MC, "were well rendered... in conjunction with good rhythm and timing"—areas where MC feels the littlest Krell "may have the measure of its bigger brothers." (Vol.19 No.7)

YBA Intégré DT: \$2345 \$\$\$

"A 50Wpc integrated amp, even with a phono stage, hardly seems like a bargain at \$2345," ST allowed. "But it is. You get beautifully detailed, neutral sound, a superb tonal balance, magnificent build quality, and exquisite styling... the \$400 extra you pay for the moving-coil module seems almost ridiculously cheap when you hear the quality of the phono reproduction." Version without phono stage costs \$2195. Version with single transformer, not reviewed, costs \$1945. (Vol.19 No.12)

B

Adcom GFA-5802: \$1750

MF called this 300Wpc solid-state stereo amplifier "a tremendous value for \$1750... With its enormous power reserves and high current capability, the 5802 probably can drive any speaker load it is presented... But that doesn't mean it's the ideal amplifier for every loudspeaker," he cautioned. "Overall, [it's] a consistently sweet-sounding amplifier from top to bottom. It exhibits a 'tubelike' liquidity, especially in the midrange, and save for a slight 'coolness' in the upper midrange, the best word to describe its overall character is 'warm'... But somehow the tremendous power reserves don't add up to the kind of ultimate control, authority, and slam I expected." (Vol.21 No.4)

Aragon 8008ST: \$1999 \$\$\$

TJN was so taken with this 200Wpc solid-state amp that he enthused over its "effective combination of body, richness, and detail," although he did note that the top end could turn dry and zippy on hard transients. Overall, he rated this amp equal to power amps costing as much as five times more. "Make the comparison," he urged; "... it just might make you feel a lot better about your budget." A \$500 optional upgrade adds balanced inputs, two transformers, enlarges the output stage, and doubles the power-supply capacitance, the result being the 8008BB (not auditioned). TJN found the three-channel version, the \$2499 Aragon 8008x3, "every bit as good a performer—an open window on the source." (Vol.19 No.6, Vol.21 No.3, 8008ST; SGHT3 No.1, 8008x3)

AudioPrism Debut: \$1995

ST recommends this 50Wpc, EL34-based tube power amplifier for its superb build quality, excellent adjustment flexibility—it offers different levels of feedback, a variety of grounding options, and multiple output taps—and excellent bass and dynamics. (Vol.19 No.10)

Ayre V-3: \$3875

This 100Wpc MOSFET amp "swings like a good 'un," said WP. "A success. A rousing one... I never tired of its silence, exemplary pacing, and timbral accuracy." ST finds the top end a little dull, lacking what he likes to call "crystalline clarity"—hell, that's what I want from a solid-state amp," he thunders. SS agrees with ST and WP that the Ayre is borderline Class A, not quite reaching those exalted heights due to a somewhat closed-in high end, though SD bought one as an affordable reference alternative to his Rowlands. (Vol.19 No.8)

Bel Canto SET 80 monoblock:

\$6500–\$7040/pair depending on options

This balanced SE tubed 70Wpc monoblock "offers an archetypal tube SE midrange," according to MC. "It also packs a substantial kick in the bass, unexpectedly so for the genre. Remarkably, its designer has succeeded in achieving genuinely high powers from a SET amplifier without compromising sound quality." He did note, however, that the amp possesses "moderate transparency and rather average rhythmic expression leading [to] a laid-back character that was less involving than I had hoped for, despite above-average rendition of dynamics and a quite good sense of space." (Vol.21 No.5)

Bryston 3B-ST: \$1565 \$\$\$

This 120Wpc solid-state stereo power amplifier "picks plenty of power for a bantamweight," proclaimed LG. "In the areas of bass and midrange dynamics, punch and solidity... it equals top amplifiers." However, those amps in Class A possess greater transparency, openness, and soundstage depth, he cautions. On the other hand, its clean power, modest cost, and 20-year warranty offer a lot of value for the audiophile on a budget. (Vol.19 No.10)

Carver Lightstar: \$2795

This 300Wpc solid-state amplifier is different from the original Lightstar Reference in many ways—it's no longer dual-mono down to its power supplies, for instance—but RD said, "In every sonic parameter that I examined, the Lightstar 2.0 was superior to its predecessor. An extremely powerful amplifier, it handles difficult loads with aplomb, and the sound has a delicacy that's rare among high-powered amplifiers. Innovative in design, and bucking the modern trend of ever-increasing prices, the Lightstar 2.0 is an old-fashioned bargain." (Vol.21 No.7)

Cary CAD572SE monoblock: \$2495/pair

(See MC's review in this issue.)

Cary SLM-100 monoblock: \$3495/pair

"High qualities of sound, parts, and construction" make this 100W tubed monoblock "a bargain," claimed RJR, citing its glorious midrange. "Yes, there [is] a bit of euphonic tube sweetening... [but] the seductive reproduction of well-recorded voices melted me down into a puddle." Bass reproduction could go quite deep, but he found it marred by "ripe thickness" in the 80–100Hz region. Chromed chassis adds \$500/pair. (Vol.19 No.5)

Classé CA-100: \$1495

RJR called this solid-state 100Wpc amplifier "a superb performer whose many and well-balanced strengths are reminiscent of those found in much pricier gear. Its effortless dynamics and high current capability should enable it to provide exemplary performance when paired with a broad range of speakers. None of its flaws are serious..." A touch of euphonic sweetness in the midrange, combined with "a bit of tension, a sharpness" in the upper mids, and a slight darkness in the extreme high octave compared to much more expensive amplifiers. "My favorite amplifier under \$2000," quoth RJR. (Vol.20 No.12)

Conrad-Johnson MV-55: \$1995 \$\$\$

The value-for-money, 45Wpc MV-55 "gets the harmonics right," according to ST, who rates this amp "a classic, a steal, ★★@#ing fabulous!" Its sound features "lots of spatial bloom... Female vocals sound ravishing," he adds, summing up that "in terms of sheer musicality—truth of timbre, harmonic rightness, fullness, richness—there may be few amps at any price that can surpass the MV55.... If you have reasonably sensitive loudspeakers, I urge you to give the MV55 a serious listen—this amp is a 'must-audition.'" (Vol.19 No.10, Vol.20 No.4)

Electrocompaniet AW-60: \$1995 \$\$\$

ST thought this solid-state 60Wpc stereo power amplifier's bass sounded good—"tight and defined. And the harmonic presentation was quite pleasing through the midrange." Choose your speakers carefully, however. "If your speakers are warm, rich, mellow, slightly soft on top, then you get too much of a good thing with the Electrocompaniet. If you think your speakers sound thin, analytical, overly bright, then [it] might be just your ticket to civilized European sound." (Vol.21 No.1)

Kinergetics KBA-280: \$2795

Fan-cooled, 140Wpc, class-A powerhouse. "If your criteria for good sound include a detailed yet unexaggerated top end, liquid sweetness, an immediate-sounding yet natural midrange, and solid bass, this may be your amplifier," said TJN. "It doesn't disappoint in any way, either in subjective listening quality or test-bench competence." (Vol.21 No.3)

McCormack Power Drive DNA-1: \$2095 \$\$\$ ☆

Beautifully made, this relatively inexpensive 175Wpc solid-state amplifier had RH waxing lyrical about its sound: "... warm, sweet, punchy, and eminently musical." With a more laid-back, less dry balance than the Boulder 500AE, the DNA's soundstage presentation featured a superb sense of palpability, noted both RH and JA. A pair wired for bridged-mono operation costs \$4995. "A strong Class B product that is knocking on the door of Class A."—RH. Deluxe Edition monoblock (\$5995/pair) has premium parts quality and gets even closer, making it one of the best bargains in audio. (regular, Vol.15 No.4; Deluxe, Vol.18 No.3.)

McCormack Power Drive DNA-0.5: \$1495 \$\$\$ ☆

Smaller—120Wpc—sister to the DNA-1, the DNA-0.5 floated TJN's boat in a big way: a palpable midrange, crisp transients, air and detail to spare, and plenty of punch to percussive bass. "An Aladdin among amplifiers," he proclaimed; "a diamond in the rough!" ST concurs, calling the Deluxe Edition version (\$1795) "an incredible achievement... a totally honest, no-BS product" and "one of the best amplifiers, period." (Vol.18 Nos.2, 5, & 12)

Mesa Engineering Baron: \$3995–\$5000 depending on tube options

Tubed stereo power amp has a plethora of operating options: choice of output transformer taps, four negative feedback levels, and four operating modes—class-A triode (60Wpc), class-AB pentode (150Wpc), ⅔ triode/½ pentode (90Wpc), or ⅓ triode/⅔ pentode (120Wpc). CS loved this amount of flexibility, being made of (ahem) sterner stuff than JA, who found a mode that worked for his reference speakers and stuck with it. Triode mode with minimal feedback, quoth he, was "seductively sweet-sounding," although the frequency extremes were rolled-off and dynamics restricted. For CS, however, "the Mesa Baron is the truth, the whole truth, and nothing but the truth." Since the Baron has high output impedance and progressive distortion characteristics, its sound will vary more than usual depending upon the loudspeakers it is asked to drive—mandating careful prepurchase audition. However, JA concluded, "when everything does go its way, it will give its owner much musical enjoyment and can be recommended." Price is with 5881 output tubes; with E34Ls the price is \$4500, with KT99As it is \$5000. Early Barons can be modified to take the new tubes for a one-time service fee of \$270. (Vol.20 No.1)

Moth Audio S2A3: \$3450

"More powerful, subjectively, than you might think from a flea-sized 3W [tubed] amp," assures ST. "Fabulous styling. Funky. Fun. Will work best in small rooms." (Vol.21 No.5)

Muse 160 power amplifier: \$1900 \$\$\$

MF was "surprised and delighted by the tubelike shimmering liquidity" of this 160Wpc solid-state amplifier's midrange. "Equally important, the amp's top-to-bottom presentation was both tonally and rhythmically coherent." Its sins, he said, were mainly of omission: mild compression of the soft end of the dynamic spectrum; slight loss of low-level resolution; and a generally soft, somewhat relaxed presentation. Yet, "with its high power output, high current capabilities, its 30dB of gain, and its stability into any kind of load, the 160 can fit comfortably into any existing audio system." (Vol.20 No.10)

OCM 500: \$2895

SS felt the 260Wpc 500 best suited situations requiring heavy wattage and current and high damping capabilities. While not possessed of the last word in 3-D imaging, it did manifest "excellent transient speed, credible articulation of inner detail, and fine low-bass exten-

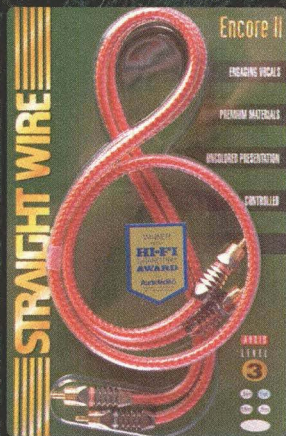
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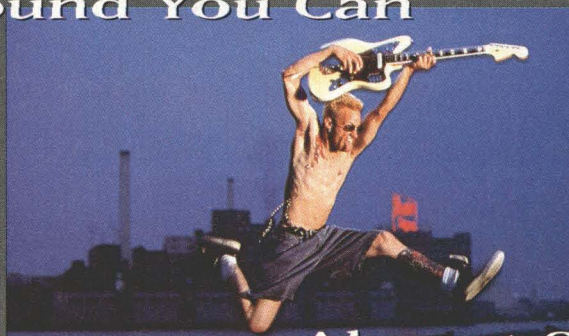
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sion." Mild HF hardness may be exacerbated by speakers sharing the same tendency. "Solid Class B," adds MF. (Vol.18 No.12)

Proceed AMP-2: \$1995 ☆

TJN finds the sound of this affordable 150Wpc stereo amplifier gripping—with a detailed, full-bodied quality revealing every nuance without extending into hyper-detail. The bottom end sounds deep and tightly controlled, while at the opposite end of the scale the sound is pristine, albeit with a trace of dryness at the top. Some may find it too revealing, he cautions, yet it struck him as accurately portraying what's on the recording. Also a favorite of DAS, who feels it works best with speakers having "lots of uncolored meat in the low end." The three-channel AMP-3 (\$2995) is identical other than using three rather than two amplifier modules. Upgrade from two-channel amplifier to three-channel costs \$995. (Vol.18 No.5)

SimAudio Celeste 4070: \$1799 \$\$\$

Hard-to-impress SS hailed the 80Wpc 4070 as "the first moderately priced amp I've had in my home that delivers the fine details of musical events," finding its transparency and low-level detail to be exemplary. He also praised its frequency extension and ability to unravel complex passages. However, he felt it erred slightly toward the thin side of harmonic balance and lacked the fully developed soundstaging of the best, more expensive amplifiers. "In the right system, [it] will make many people wonder why anyone would need to spend more money," he concluded. (Vol.18 No.12)

Sonic Frontiers Power 1: \$2495

Push-pull 55Wpc stereo tube amplifier that MK recommended "for its superbly balanced rendering of voices and instruments.... There was plenty of accuracy and extension in the treble, and the bass was...solid... [T]he sound was exceptionally clean and clear, with very black silences." While he did not feel the Power-1 was quite up to his reference in soundstage bloom, or could "provide quite as clear a window into the music," he deemed it "good performance for the price." (Vol.20 No.11)

Vacuum Tube Logic MB 175 Signature monoblock: \$4990/pair

This tubed monoblock produces 175W in tetrode mode or 90W in triode (switchable). MF lauded its "deep, well-controlled, well-damped bass," as well as its neutral, "if tending toward the lean side," tonal balance. While he felt the VTL didn't offer "the ultimate in soundstage depth," something that keeps it from Class A, he was impressed by the "outstanding high-frequency extension, transient speed, and airy overall presentation.... An outstanding combination of sonic and technical virtues at a more than reasonable price." (Vol.20 No.6)

Valve Amplification Company PA80/80: \$3290

"Has tube magic in spades!" avers WP of this 80Wpc design (3% THD); he found it warm, dimensional, and beguiling. Slight midbass emphasis contributes to a punchy, propulsive sense of drive that he enjoyed. Not as extended in the frequency extremes—or quite as refined—as some of the Class A amplifiers, but almost second to none in its presentation of the emotional subtext of the music, according to the big guy. Golden Dragon KT88M output tubes now standard. (Vol.19 No.3)

B (Integrated Amplifiers)

Audio Note OTO Phono SE: \$2495

12Wpc single-ended integrated amp "revealed itself to an exceptionally good-sounding amplifier and a bargain at \$2495 with a phono stage. [It] was clean, liquid, sweet, spacious, and transparent, but not at the expense of detail resolution. It had far better bass control and subjective output power than you'd expect from the power rating or measured performance. Still, a loudspeaker with a fairly high impedance and high sensitivity is mandatory." RH thought the phono section exceptional. "Potential purchasers should be aware of the OTO's limitations in loudness and dynamics." BD notes the rich, creamy sound, but found that details and transients were lost. (Line-only version costs \$1995.) (Vol.20 Nos.3 & 9)

Bryston B-60: \$1495 \$\$\$

ST was mightily impressed by this solid-state 60Wpc integrated: "The midrange was especially smooth and sweet, making it a pleasure for me to listen to chamber music. Treble was well extended—certainly not rolled-off... but it wasn't exaggerated. Bass was richly delineated, tight and tuneful..." Not a powerhouse, however, he cautions—match speakers to it carefully. "Stealth high end," LB called the B-60. "The Bryston provided a clean, detailed, transparent soundscape without stridency—or, put another way, offered the virtues of solid-state without the vices." "Almost as good as solid-state gets in every respect except power," sez ST. "This will be one of the great hi-fi classics!" WP concurs, and listens to his up to eight hours every day. 20-year warranty; remote control adds \$300. (Vol.20 No.5, Vol.21 Nos.7 & 10)

Classé CAP-100: \$1995 \$\$\$

This beautifully built solid-state 100Wpc integrated amp really impressed RH. "Not only a great-sounding amplifier, but a fabulous value at \$1995," he raved. "[It] had stunning transparency, soundstage focus, and detail resolution that would be remarkable even in much more expensive separates. In addition, [its] ability to portray dynamic shading, from the quick leading edge of percussion to the visceral slam of bass drum, was first-rate." Some may find the CAP-100's lively sound too forward for their tastes (which is why WP recommends a Class B rating), but for RH, "the sound was instead infused with a finely woven quality that gently revealed detail... with subtlety and grace that pulled me in to explore the music's innermost structure." (Vol.20 No.9)

Conrad-Johnson CAV50: \$2495

The 45Wpc tubed integrated with a passive input stage is "a particularly good sonic value," said MC, although he had some misgivings about its middling input sensitivity and its ability to handle reactive loads. But he was unequivocal about its sound: "[It has an] easy-listening quality—combined with good rhythm and drive; a fine, deep soundstage; good, dynamic delivery and load drive; and a sweet tonality that held steady throughout the frequency range." ST liked it too: "maybe the best-sounding push-pull tube integrated you can buy.... you hear the music first, then the detail." (Vol.21 Nos.8 & 10)

Densen Beat B-100: \$1295

This 60Wpc solid-state design was slow to warm up in MC's system, but when it did, it "rewarded the listener with good transparency and a pure, open treble devoid of the grain usually found in this price range.... Bass was pretty good... rhythm and dynamic expression were above average." The Beat B-100 "is recommended, provided that you use 'twin'-type speaker cable... speakers of 4 to 8 ohms, and that you leave it powered up semipermanently." "Budget solid-state at its best!" agrees ST. (Vol.20 No.9)

LFD Mistral: \$1095 \$\$\$

This 50Wpc solid-state integrated is "proof that simpler is better," according to ST. "The openness and airiness is the thing here. Good resolution, too. The story here is simplicity. Get a simple circuit that works and tweak it to death, then QC the production like crazy. Way recommended." WP heard it at Sam's place and was also smitten. (Vol.21 No.9)

Musical Fidelity A220: \$999.95

This 50Wpc solid-state integrated amp is biased heavily into class-A, which makes it run hot, hot, hot, cautions ST. Good ventilation is a must. "The A220 had a lovely liquidity that many tube amplifiers struggle to achieve. Plus it had solid-state drive and dynamics. Subjectively... the A220 sounded more powerful than 50Wpc." (Vol.20 No.5)

Linn Majik-I: \$1195

"Don't be put off by the 33Wpc power rating," RH cautioned; "the Majik-I has the ability to deliver current into low impedances, and can increase its power output to 100Wpc into 2 ohms. I never wanted for power in my small room." The amp "excels in several areas: reproducing natural timbres, throwing an incisive yet relaxed soundstage, and most of all conveying the music's life and energy." Price includes remote control. At \$100, the optional phono stage is a bargain. RH's top

choice under \$2000. (Vol.19 No.12, Vol.20 No.9)

Musical Fidelity A-2: \$699 \$\$\$

This 25Wpc solid-state integrated runs hot, ST cautions, being heavily biased into class-A. "The sound is very special," he insisted, "not at all what most people are used to hearing (suffering?) from inexpensive equipment." Not the last word in resolution, he adds, "but so what? This is musical. Love it!" (Vol.20 No.1)

C

Audio Electronics SE-1: \$759-\$899 ☆

ST calls this kit-built SE tube amp from a subsidiary of Cary Audio (it offers anywhere from 5 to 7Wpc, depending on output tubes used) a "good low-cost entry into single-ended." He wrote, "The SE-1 has the SE virtues... Beautiful harmonic presentation. Immediacy. A sense of you being there at the performance, or of the performance happening in your living room." Where the SE-1 falls short, Sam says, is in its power output, its small soundstage, and its lack of ultimate resolution, "although I can't complain at the price." This little kit "can be great with reasonably sensitive speakers—even 89dB—in smaller rooms." Price listed is for kit; price assembled is \$959-\$1099. (Vol.17 No.11, Vol.21 No.5)

Audio Electronics SE-811 monoblock: 1995/pair

ST reckoned these SE triode 12Wpc monoblocks, based on Svetlana's SV-811-3 tube, to be "innovative, interesting, and enjoyable," having many of the virtues of much more expensive SE designs: "Clarity, purity of tone, and absence of grunge." Yet despite calling their top end "particularly smooth, sweet, and extended," he felt that "some of the 300B magic was missing." Also available in kit form for \$1195. (Vol.19 No.7)

Chiro C-200: \$998 ☆

"Power combined with delicacy" is how RD described the sound of this 100Wpc amplifier. "Fit'n'finish are a definite cut above what one expects at this level," he elaborated. "As of now, [it is] my favorite amplifier in this price range." Borderline Class B, he sums up. (SGHT2 No.1)

Denon POA-8200 THX: \$999

RH lauded its "smooth and unfatiguing, yet highly detailed" character, also enthusing over the tremendous bass extension and weight. (SGHT2 No.2)

Marantz MA-700 monoblock: \$500 each

Solid-state 200W amplifier. "Powerful and dynamic, with the slam and transient precision of amps costing much more than a paltry \$500 per channel," said FM. "Add to that a meaningful lack of compression, a solid and unwavering soundstage, and a rich tonality that, if not completely accurate, is at least wonderfully complementary to the home-theater environment." Slight diminution in top-octave air imparts warmth to overall presentation. Compared to more expensive references, the MA-700 also glosses over microdynamic detail. (SGHT4 No.1)

Marantz MA500 THX monoblock: \$300 each \$\$\$

"At \$300 each, the MA500s are one of the best buys in home theater," exclaimed RH over these compact 125W monoblocks. "They were smooth, spacious, and had good dynamics." Build quality is quite high, so don't let their stature fool you—they drove Avalon Radian HCs "without strain or congestion." (SGHT2 No.2)

NAD 214: \$499 \$\$\$

Offering good sound, specifically a natural-sounding midrange, the 80Wpc NAD 214 struck RD as an excellent candidate for Class C—especially in light of its reasonable price. (SGHT2 No.3)

Parasound HCA-1000A: \$595 \$\$\$

Improved version of the \$575 HCA-1000, sporting a more robust power supply, a second pair of RCA jacks (to facilitate "looping" two or more amps to a single source), and an auto turn-on circuit. BW was impressed by the original 1000, and particularly taken by its detail, soundstaging, and dynamic attack. However, he felt its bass reproduction lacked body, a shortcoming the 1000A specifically addresses with its beefier power sup-

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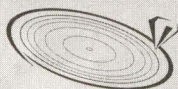


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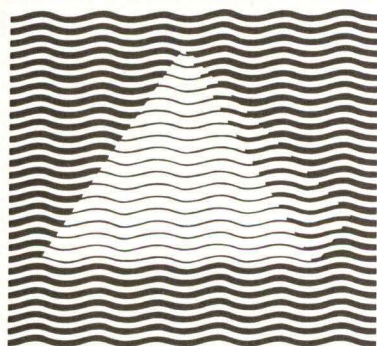
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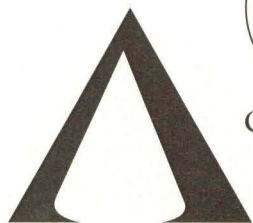
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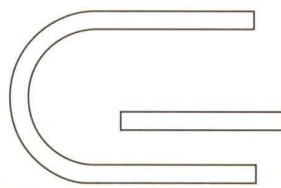
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System Components: Speakers: Avalon Eidolon; Phono Stage: Aesthetix Io; Preamp: Accuphase C290; Amplifier: Accuphase M2000; Analog: Basis Debut Vacuum Mk V, Graham Model 2, Koetsu Rosewood Signature Platinum, Basis 2500, Graham Model 2, Benz Ruby 2, Basis I400, Basis RB300, Benz Glider; Digital: Accuphase DP90/91, Muse 24/96; Cables: Acrotec and Graham; Racks: Zoethecus; ASC tube traps

ply. "The 1000's few shortcomings have been completely addressed in the revision," he concluded, making it "a serious contender in affordable high-end amplification." (Vol.20 No.8)

Sonic Frontiers Anthem AMP-1
power amp: \$1195

Stereo push-pull vacuum-tube 40Wpc power amplifier. "Excels at just about every parameter," said LB. "It's tonally clean, with everything from the low lows to the high highs rendered just right, and it's boss, man, at the information-retrieval game. It'll get up and shingaling and do the thing when it's time to bust-a-move. But the best part is the AMP-1's sheer musicality—it doesn't just get the notes right, it plays the tune." (Vol.21 No.2)

C (Integrated Amplifiers)

Audiolab 8000S: \$1095

This 60Wpc solid-state integrated delivers "clean, crisp, solid-state sound—unimpeachable," ST avers. "Excellent configuration flexibility—no other integrated I know of can be used so many ways or be reconfigured so easily. Keenly priced. Good value." Borderline Class B. (Vol.20 No.1)

Creek 4330: \$495 \$\$\$

"Performance for the price...makes the Creek...a breakthrough product," said ST of this 40Wpc solid-state integrated amp with a passive line-stage (plug-in MC phono module available for \$60). "The resolution of low-level detail, from an amp this size at this price, is...almost staggering—not far from the very best I've heard at any price." Bass and midrange "are not as full as I might like, but the sound is very smooth, very sweet, and the treble is nicely extended without ever sounding peaky.... Exactly what we need in budget hi-fi: sound quality so good that you may feel no need to mess around with more expensive stuff." "Most of the time size doesn't matter," commented WP, ignoring the irony inherent in his making the statement. "If it did, Creek would have never managed to fit all that music into the 4330's tiny little box. The Creek 4330 isn't just a great amplifier for the money, it's a great amplifier, period." Remote control adds \$100. (Vol.20 No.11, Vol.21 No.8)

Denon PMA-2000R: \$999

ST was impressed by this 80Wpc solid-state integrated's user-friendly features (remote control, tone controls, MM/MC phono section, headphone section), as well as its "clean, clear, articulate sound that is totally nonfatiguing and free of grit, grunge, and glare." Still, he found the sound "just a little uninvolving." Nonetheless, he urged, "Tell your friends." (Vol.21 No.6)

JoLida SJ 502B: \$1095

"One fine little amplifier," affirmed LB. He found this 60Wpc integrated, line-level-only tube amp quiet, tight, and tuneful—albeit a trifle polite. JA was impressed with the amplifier's test performance, finding it noteworthy considering a) it's a tube amp, and b) it costs so little. Model reviewed was the electronically identical but cosmetically different 502A. (Vol.19 No.3)

Musical Fidelity X-A1: \$599.95

ST liked this solid-state 50Wpc integrated. "The sound quality is so good for so little money that you might seriously question the need to spend more." It's gone up \$100 since he said that, but still he insists: "Even at \$600, the new 'street' price from Audio Advisor, this is an attractive buy. Tubelike sound, excellent build quality for the price, and unusual styling. Can't go wrong." (Vol.21 No.7)

Myryad MI-120: \$999

This 60Wpc solid-state amp is musical, ST decided, "if by 'musical' you mean sweet, smooth, liquid." However, "the sound, overall, could use more body." Analog lovers are well served—onboard phono options include MM and MC boards at budget prices, and the headphone jack runs off the power amp rather than a cheap 'n'cheerful op-amp. MM phono stage adds \$100; MC phono stage adds \$129. (Vol.20 No.1)

Rega Brio: \$595

WP called this 30Wpc solid-state integrated with

phono section "a lively, well-balanced amplifier that rendered up realistic, musically engaging sound at all times.... A shade on the polite side," he thought, and he "was aware—at times—that the Brio adds a slight texture to the music." 30W output necessitates careful speaker matching. (Vol.21 No.9)

D

Editor's Note: There are currently no Class D amplifiers listed.

K

Sonic Frontiers Power 3, YBA Passion, Jeff Rowland Design Group Model 6, Conrad-Johnson Premier Twelve, Sim Celeste Moon W-5, Alchemist Kraken, Arcam Alpha 10/10P, Bow Wazoo, Mesa Tigris, Accuphase M2000, Cary CAD-1610 and 2A3 monoblock, Jadis 845, Lanum ML-1 and ML-2, Melos RWT-150, Nagra MPA, Jeff Rowland MC-6, Sim Moon W-5, VTL MB450, Wavac HE-833A.

Deletions

Mark Levinson No.333 replaced by No.336, Mark Levinson No.331 replaced by No.334, Rotel RA-970BX replaced by RA-971, none yet auditioned; Audio Note Kassai Silver not currently available in the US; Conrad-Johnson MF2300-A, Marantz Model 9 Reissue monoblock, and Audio Research VT130SE discontinued.

Loudspeaker Systems

Editor's Note: Class A "Loudspeakers" are sufficiently idiosyncratic and differ enough from one another that prospective customers should read *Stereophile's* original reviews in their entirety for descriptions of the sound. I have therefore just listed every system or combination that at least one of *Stereophile's* reviewers feels, as a result of his or her experience, to approach the current state of the art in loudspeaker design. (Note that, to be eligible for inclusion in Class A, the system must be full-range—i.e., feature bass extension to 20Hz. It must also be capable of reaching realistic sound-pressure levels without any feeling of strain.)

For those unconcerned about the last few hertz of low-bass extension, we have created "Classes A, B, and C (Restricted Extreme LF)" for those speakers that are state of the art in every other way. Candidates for inclusion in this class must still reach down to at least 40Hz, below the lowest notes of the four-string double-bass and bass guitar.

In addition, such has been the recent progress in loudspeaker design at a more affordable level that we have an extra class: E, for "Entry Level." Someone once asked me why *Stereophile* bothers to review inexpensive loudspeakers at all: In effect, aren't we insulting our readership by recommending that they buy inexpensive models? Remember: It's possible to put together a musically satisfying, truly high-end system around any of our Class D and E recommendations. That's why they're listed—and why you should consider buying them.

A

Artemis Eos Signature with Base Modules:

\$17,600–\$22,100/pair depending on finish
(Vol.20 No.10)

Audio Artistry Beethoven: \$28,000/system

Four-piece, bi-amplified dipole system consisting of two dynamic main panels, two subwoofers, a pair of passive crossovers, and a unity-driven, noninverting, balanced, active (line-level) crossover. (Vol.20 No.11)

Dunlavy Audio Labs Signature SC-V1:

\$23,995/pair

Price is for light and black oak finishes; rosewood and

cherry veneers add \$1000/pair. (Vol.19 No.8)

EgglestonWorks Andra: \$14,700/pair
(Vol.20 No.10)

Jadis J1: \$45,000/pair

High-sensitivity horn array with Isobarik-loaded dynamic woofer. Formerly called the Eurythmie II. (Vol.19 No.3)

JMLab Grande Utopia: \$70,000/pair
(Vol.19 No.5)

JMLab Utopia: \$30,000/pair ☆
(Vol.21 No.4)

Meridian DSP6000: \$16,995/pair ☆

Active system offers digital data inputs only and uses delta-sigma D/A conversion. (Vol.14 Nos.9 & 10, Vol.18 No.6)

Snell Type A Reference System: \$19,000

Seven-component system consisting of two Type A HF/midrange towers, two SUB 1800 subwoofers, two isolated outboard crossovers, Kimber wiring harnesses, and an outboard electronic crossover. (Towers on their own cost \$7000 each, the SUB 1800 THX subwoofers—see "Subwoofers"—cost \$2500 each.) (Vol.19 No.3)

Waveform Mach 17: \$6995/pair \$\$\$

Three-way, floorstanding loudspeaker requires tri-amplification. Available factory direct only, with 30-day money-back trial period. Price includes line-level crossover. (Vol.20 No.6)

A—Restricted Extreme LF

Artemis Eos Signature: \$8200–\$10,600 depending on finish (stands necessary)

According to KR, "the EOS Signatures pull off the biggest trick of all: They simply disappear!" Without matching bass modules, KR says, the speakers were somewhat lighter in balance, but he preferred them solo for many sources. He noted a touch of "glint" around 6kHz, but was not particularly bothered by it. Tweeter and midrange are wired acoustically out of phase with one another—which didn't bother KR because he never listens in the nearfield. For those who do, simply reverse the tweeter connections. Adding the Bass Modules gives the Signatures extra heft, moving the combo into full-range Class A territory. KR recommends giving them lots of room (place them a minimum of 10' from the listening position). "Bass is substantial and firm; the lack of high-pass filtering is of little concern except for headbangers and PA use." Easy to drive and to place ("if not to move"). Matching Artemis Eos Bass subwoofer costs \$9400–\$11,500 depending on finish. (Vol.20 No.10)

Audio Physic Virgo: \$5395/pair ☆

"Where'd they go?" asks MF, observing that "The Virgos flat-out disappeared. Aside from pulling a vanishing act, what they do better than any other speaker I've auditioned...is resolve low-level detail: spatial and ambient information, and especially texture and touch in the lower midbass and upper bass." But they don't, he concedes, "give me the visceral sock-to-the-stomach bass" that some audiophiles crave. He also wonders if there isn't a touch of midbass warmth, a quality he finds easy to ignore—if not actually crave. "Worth a listen, if you've got the scratch." (Vol.18 No.9)

Avalon Acoustics Radian HC: \$12,995/pair in hardwood finish

When they were coupled with the other components in the Spectral/Avalon/MIT 2C3D system, RH was impressed with the Radian HC's "gigantic three-dimensional soundstage...[with] the width, transparency, focus, and image specificity [that] were better than any I'd ever heard." He added that "the bottom end also had a stunning dynamic agility." Overall balance can be a little lean, found JA, who enthused about the speakers' midrange smoothness and detail. (Vol.19 No.1)

B&W Silver Signature: \$8000/pair (stands & cables included) ☆

Expensive two-way minimonitor with outboard crossover uses silver wire throughout and successfully pulls off the trick of persuading its listeners that it's much bigger than it really is—at least at moderate SPLs. Useful bass exists down to 32Hz, with a delightful

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ALÓN CIRCE: "The Circes are the quietest speakers I've ever heard, the most revealing of air and silence around and between the notes and of the characteristic textural quality of each instrument's initial tonal attack as well as its harmonics."

—Arthur Pfeffer, *The Absolute Sound*, Issue 112, May/June 1998

ALÓN LOTUS SE: "You need to experience these speakers in a 35 x 55 room to appreciate their ability to artify the harmonic/space/time continuum in an expanded aural matrix... with only a few watts of triode horsepower. This speaker may be the turning point in the American triode revolution..."

—Dr. Harvey Rosenberg, *Positive Feedback*, 1998

ALÓN I MKII: "During my tenure at *Fi*, a procession of superlative products has passed through my small (approximately 12 x 16 foot) high-end sound room, but I've never heard a speaker, in these cramped quarters, which outperformed Marchisotto's latest creation. As with his past designs, the Mark II is defined by its mind-boggling midrange."

—Anthony Chiarella, *Fi*, August 1998

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combination of weight and articulation. The uncolored presentation is astonishingly transparent, soundstaging is superbly palpable, and tonal balance is a little on the polite side, but the Silver Signature is, overall, the most musical-sounding design to come from B&W that JA has heard. **A, WP favorite.** (Vol.17 No.6)

mbl 111: \$13,900/pair

This idiosyncratic-looking loudspeaker represents a serious attempt at producing a true omnidirectional source. It impressed JA with its "remarkably effective and well-thought-out engineering." The woofer's bandpass loading scheme gave the bass a "pudding" character, meaning that it could lag somewhat behind the rest of the speaker's presentation—a bigger problem with the more prominently recorded bass lines of jazz and rock than with orchestral or chamber music, quoth JA. Even so, he "fell in love with this speaker's sweet, detailed midrange, clean, transparent high frequencies, grand, sweeping soundstaging, and, above all, the majesty with which it presented much of the music I love." A powerful amp is necessary. Price is for satin-black finish; price in piano black is \$18,250/pair. (Vol.20 No.4)

Revel Ultima Gem: \$6000/pair (stands necessary)

TJN was very impressed by these stand-mounted, two-way, four-driver, reflex-loaded loudspeakers. "The overall balance... is a little lean rather than rich... But it is very 'fast.' Transients snap, the top end is detailed, and there is plenty of air around instruments and voices, even with the Gems' rear tweeters turned off. This isn't a sweet sound, but it's immediate and alive... only occasionally do I get the feeling that the Revels are a little analytical and pushy in the low treble." Matching stands cost \$1500/pair. (SGHT4 No.6; see JA's review in this issue.)

Wilson Audio Specialties WATT/Puppy

System 5.1: \$17,270/system

"I've rarely heard a system that transported me so physically into the acoustic of the recording venue," exclaimed WP on auditioning the original System 5. He was also impressed by this highly sensitive (91dB) system's grain-free, highly detailed presentation, and lauded its tonal neutrality and spectacular presentation of dynamics. They are extremely critical of ancillary equipment and room placement, however. Upgrade to Model 5.1 consists of a cable—the Puppy Tail—that connects the high-pass outputs of the Puppy subwoofer to the WATT's inputs. Remarkably, WP reports, that change improves a speaker that was awfully good in the first place—by ameliorating midbass "blump." "Like a Great Dane puppy growing to match its huge paws," waxed the big man, "the System 5 has at last grown into its sound—the WATT/Puppy is much more musically involving now." JA observes that the System 5.1's treble and upper-bass balance is best suited for large, open rooms. (Vol.18 No.11, Vol.19 No.10)

Wilson Audio Specialties WITT Series II:

\$11,890/pair ☆

Cosmetic changes, dictated by the need for a new finish, were joined by changes in the internal damping, crossover, and woofer. MC said, "the Series II sounded more full-bodied than the I; the low-mid—a region where the original was already no slouch—was now better structured and detailed. There was a touch more upper-bass weight, expressed with a crisper punch.... Overall, the midrange sounded richer, more natural, with small gains in detail and transparency." Perhaps, he felt, "there was a bit less low bass, but you'd have to hear the models side-by-side to be sure of this." (Factory upgrade from WITT Series I costs \$2990 plus shipping to manufacturer.) (Vol.19 Nos.1 & 7; Series I; Vol.21 No.1, Series II)

B

Editor's Note: Note that all the full-range Class B recommendations, with the exception of the Aerial 8 & 10T, are floorstanding models.

B—Full-Range

Aerial Acoustics 10T: \$6500–\$7500/pair depending on finish (stands optional)

This three-way loudspeaker possesses solidly constructed

separate bass and tweeter/midrange enclosures. "Their ability to kick the tar out of any dynamic challenge... thrown at them" impressed WP, as did their uncolored midrange and exciting, immediate presentation. "Misses Class A by half a gnat's hair," WP insists. Optional (and highly recommended) matching stands add \$600/pair. (Vol.19 No.4, SGHT3 No.1)

Aerial Acoustics Model 8: \$5000–\$6000/pair depending on finish (stands optional)

"Almost a full-range speaker," MF writes, "with gut-socking, dynamic bass and a bit too much midbass—although a big room cures that to a great degree. Superbly engineered and built. An outstanding value for the money, but needs lots of clean, controlled power. Good image focus and big, though recessed soundstage." Lacks the "airy excitement" and "ultra-high resolution of inner detail" MF craves and the "finger-snappin' speed" he insists on. Works best in a big room. Matching stands cost \$400/pair. A revised version is currently under audition by TJN. (Vol.21 No.1)

Audio Physic Caldera: \$18,995/pair

This three-way floorstander is built as three separate, decoupled enclosures, offering unusual flexibility in coupling the woofer to the floor. This level of refined development captivated MC. "It sounds complete and completed, and is emphatically not a prototype rushed to market," he marveled. "Tonal balance proved highly accurate... [although] the tonality was warmer than I am used to." He also commented on the Caldera's fluid sound and "sense of stability and inner calm... Impressive on the grounds of pure quality alone, it quietly grew on me. Its introspectiveness, even-handed powers of resolution, and ability to surprise by telling more about the inner harmony and balance of favorite works, continued to satisfy." Difficult load for tube amps. Expensive, but under the right conditions could well offer borderline Class A sound. JA is working on a Follow-Up. (Vol.20 No.8)

Avantgarde Duo: \$13,900/pair

MC was impressed by these three-way loudspeakers with midrange and treble horns and active, reflex-loaded woofers. "To appreciate the qualities of Avantgarde's Duo, it's necessary to discard... the analytical view that all must be in perfect balance.... There's true sonic value in that majestically broad, dynamic midrange, in the obvious microdynamic delicacy, the near-zero distortion, the potential for very high sound levels, the easy amplifier loading, and this speaker's compatibility with low-powered purist triode amplifiers." PM is a tad more reserved: "The treble doesn't quite match up to the mid (it's also a bit bright), while the bass is a disaster area. Obsessives might go for the mid/top alone, tinkering with the crossover.... and then add... subwoofers on the bottom end." Would be Class A if not for the bass. Price includes two SUB217R woofer modules. (Vol.21 No.6)

Celestion A3: \$3499/pair

CS called this three-way floorstanding loudspeaker "that rarest of sonic birds: a speaker that does justice to rock and r&b while optimizing acoustic sources, and without unduly italicizing any particular frequencies. The A3 gets out of the way and lets the music shine through, whether depicting the transparent inner details of acoustic instruments, the rhythm and pacing of straight-ahead jazz, or the bone-rattling transients of no-holds-barred rock." Sit in a tall chair, with your ears above the tweeter axis, and there will be a suckout in the presence region; sit below that and it fills in just fine. (Vol.21 No.6)

Dynaudio Contour 3.3 Mk.II: \$6999/pair

"Its balance of strengths—tonal neutrality, dynamic expression, and taut, unexaggerated bottom end"—impressed WP tremendously, despite his feeling that the bass region was somewhat lean. "In addition to its finely nuanced presentation of swing, it was a champion at revealing the emotional subtext of the musical event." Needs powerful amplification to open up. (Vol.21 No.1)

Dynaudio Contour 3.0: \$4999/pair

This floorstanding three-way "is the dynamic speaker to beat in the \$5000/pair price range," said LG. "Its rhyth-

mic drive, dynamic range, low distortion, and bass definition inject the listener with the energy of a live rock concert. It's ability to involve the listener in the music is simply awesome." PM concurs—mostly: "The presence is just a tad laid-back," he says, but allows that the "sound is very transparent/unboxy and its imaging is lovely. Best of all, it's unusually free from time smear, especially for a three-way. It struggles a bit with modern bass lines (Massive Attack, Prodigy, etc.) and has the usual feeble dynamic expression of low-sensitivity (85dB) designs." (Vol.21 No.9)

Energy Veritas v2.8: \$6000/pair ☆

This tall, "hi-tech"—looking three-way/four-driver design from Canada uses a dome midrange unit and has a flat midrange/treble response, impressive dynamics, and near-textbook horizontal dispersion. Borderline Class A sound and imaging are the result. However, the bass is balanced to be rather generous in all but very large rooms, found TJN. "The mids and highs are exceptionally articulate, balanced, and accurate," adds WP. The v2.8 can be tri-wired or tri-amped; some owners recommend reducing the midrange level by wiring a 1 ohm, 10W resistor in series with the "hot" terminal. (Vol.17 No.6; also see TJN's Thiel CS7 review in Vol.18 No.10)

Focus Audio Model 88: \$8800/pair

Three-way floorstanding dynamic loudspeaker that engrossed JA during his review audition. "It offers... excellent stereo imaging, clarity, bass extension, and dynamics. Balanced a little on the forward side, and with low frequencies that will be overgenerous in smaller rooms, it nevertheless sounds eminently musical." Current production has a slightly revised crossover. WP felt that, "while preserving oodles and oodles of bass power and extension, the [latest] Model 88 does not suffer from the excess of it that JA experienced... but they've managed to preserve the accuracy, soundstaging precision, and uncolored honesty he admired." (Vol.20 No.6, Vol.21 No.4)

Gradient Revolution: \$3995/pair ☆

"*'iViva la revolution!'*" exhorted DO. He found the Revolution, designed to be less room-dependent than ordinary speakers, "quite endearing," although not spectacular in conventional audiophile terms. He decided their greatest strengths were organic wholeness, solid imaging, excellent microdynamic expression, and convincing rhythmic drive. Original review samples turned out to have a broken crossover. JA's Follow-Up endorsed DO's enthusiasm for this unprepossessing-looking but neutrally balanced speaker, and he adds that the bass quality and extension are both simply excellent. MF also agrees, adding that the Revolutions work great as rear-channel speakers in a Dolby AC-3 system. (Vol.18 No.5, Vol.20 No.3)

Hales Design Group Revelation Three:

\$2195/pair

"A talented loudspeaker," said RD. "Exceedingly neutral, neither favoring nor neglecting any part of the range. With the right associated equipment, it was able to resolve the most subtle of musical details, but in a way that avoided sounding clinical or hyped.... I know of no loudspeaker costing in the \$2000–\$3000/pair price range that is capable of providing a better, more musically satisfying performance than the Revelation Three. In fact, I'd recommend to anyone considering speakers in the \$5000 (and higher) price range that they listen to [them]." (Vol.21 No.2)

Infinity Compositions Prelude P-FR:

\$3400/pair ☆

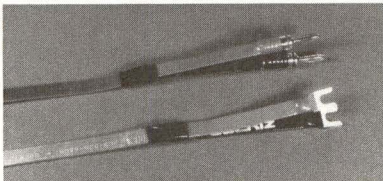
RH calls the Compositions Prelude P-FR loudspeaker with its integral active subwoofer "a stunning musical, technical, and aesthetic achievement," finding it capable of producing "transcendental musical moments" as well as performing "impressively" on movie soundtracks. But he's most chuffed by their ability to be driven to satisfying levels by low-wattage SE triode amps—calling that combination "one of the most musical-sounding systems I've heard—regardless of price." He does admonish that some will find the tonal balance too lean, wishing a little more weight and authority himself. ST, a proponent of SE triodes, concurs—adding, "they're

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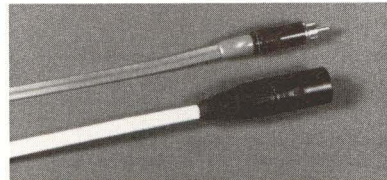
"These cables sounded, above all, ultra-clean and delightfully fast." Jonathan Scull
STEREOPHILE, 3/96, p. 114
Recommended Components, 4/97

Suggested Interconnects

Solid State Amplifiers

Tourmaline
Oxygen Free Copper

Sapphire
Solid Fine Silver



"Why play with firecrackers when someone hands you dynamite?... The sound knocked me out."
Clement Perry THE AUDIOPHILE VOICE
Vol.3, No.2, p.86

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R. Black (Listening Test) & P. Mill (Lab Test)
HI FI CHOICE, July/August, 1997, p.50

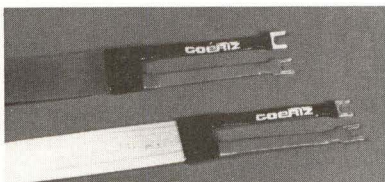
Triode/Tube Amplifiers

Triode Quartz
Solid Fine Silver



"The difference between silver foil TQ1 and conventional cable is the difference between... the fragrance of the wild rose and the ones that grow in hot houses." Harvey "Gizmo" Rosenberg
THE POSITIVE FEEDBACK, Vol. 7, No.2

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Oxygen Free Copper

AG 3 Divinity
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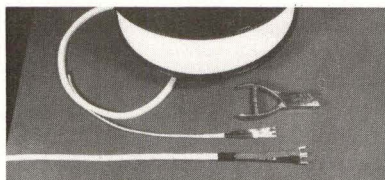
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soundstaging champs." (Vol.18 No.9, SGHT.1 No.2, Vol.19 No.2)

KEF Reference Series Model Four:

\$5200-\$6400/pair depending on finish

TJN found the Four "hard to tame but worth the effort," advising potential purchasers to audition them with the associated equipment they intend to use. With the Fours properly set up, he was delighted with their performance, especially their inner detail, transparency, soundstaging, and air. While the very best loudspeakers may do such things better, he felt the margin was small. Not recommended for small rooms, where the generous LF might turn oppressive. (Vol.19 No.3)

Martin-Logan SL3: \$3400/pair

Striking hybrid speaker system (48" electrostatic panel, 10" woofer) that captivated WP with its transparency (sonically and visually). These speakers work best with powerful amplifiers and require precise placement within a room, but when properly supported are capable of astonishingly lifelike sound, according to JA. "Designed for those who demand nothing less than the best from their speakers." Dark oak or walnut finish adds \$300/pair. (Vol.20 No.5)

Mirage OM6: \$3000/pair \$\$\$

TJN "really liked" this bipolar loudspeaker with integral active (150W) subwoofer. "I know of few loudspeakers that can match its extended frequency response, output capability, sheer listenability, and low coloration. Thanks to its separately adjustable subwoofer, it is relatively easy to position and is not overly demanding of associated components." Overall sound is a trifle laid-back and forgiving, leading to absence of "jump factor," while bottom octaves are full and rich rather than tight and highly detailed. "Minor quibbles," said the major. "They were incredibly seductive, drawing me into the musical performance and refusing to distort the experience with... distracting colorations." (Vol.20 No.11)

Monitor Audio Studio 50: \$5995/pair

MC was impressed by this "expensive but undeniably classy speaker." Although its overall presentation was a tad reticent, he found the Studio 50 fine-focused, transparent, and possessed of good stereo imaging. MC's pair had the tweeter wired out-of-phase with the woofer, whereas the pair measured in Santa Fe did not—a QA problem we also experienced with Monitor's Studio 2 (Vol.18 No.2). Once that had been fixed, MC found the Studio 50 "a good speaker, one that can be recommended with considerable confidence." Price is for black oak finish; rosewood veneer adds \$600/pair; hand-rubbed grand piano black or rosewood lacquer finish adds \$1500/pair. (Vol.19 No.3)

Mordaunt-Short Performance 880: \$3795/pair

MC praised this speaker's "ability to re-create the natural atmosphere and acoustic in a recording," as well as its "generous tonal balance, its relaxed, spacious stereo perspectives, and its smooth, sweet treble." "Some moderate midrange coloration [is] detectable when playing piano recordings," and with certain amplifiers—so careful system matching is advised. "Highly recommendable." (Vol.19 No.8)

NHT 3.3: \$4300/pair ☆

Unusual four-way dynamic speaker, deep but narrow, goes against the front wall to optimally load the woofer but still get minimonitorlike imaging precision. TJN was impressed with the NHT's sound, commenting on its extended, powerful, well-defined bass, the sweet, delicate high frequencies, and well-focused soundstaging. He did find the last less expensive than with some other speakers, however, the imaging restricted to the space between the speakers. "I'd choose the 3.3 over any of the speakers in Class A," says CG, however, enthusing over the NHT's neutrality and ability to play very loud without strain, and adding that he finds himself "without a single area of performance [he's] heard bettered by any other speaker." MF feels that, as good as the 3.3 is, in absolute terms a lack of transparency keeps it from Class A. Price is for black laminate finish; mahogany or sycamore laminate adds \$200/pair. (Vol.16 No.12, Vol.17 No.3)

PBN Montana SP Series 2: \$3495/pair

BW praised this amplifier-friendly, floorstanding two-

way for its first-rate "detail, imaging, dynamics, power handling, midrange and treble clarity, and ability to perform convincingly with a wide variety of music." The speaker lacked true deep bass, he cautioned; "its bottom octave was more implied than present"—a drawback for a contender at this price point. And he found it difficult to integrate the speaker into his small room, suggesting it needed a lot of room to breathe. Current production differs from the review samples in having a flared rectangular port, an internal acoustic high-pass filter (a foam pad below the bottom woofer) and a 2"-deeper cabinet, yielding a deeper and smoother bass response, found BW. He also noted that the Series 2 retained the virtues of the original: "excellent soundstaging and imaging abilities, a smooth, quick midrange, and a delicate, grain-free top end." (Vol.20 Nos.1 & 6)

ProAc Response 2.5: \$4500/pair

"Makes great music," MF asserts, "totally free of grain, 'crispies,' and edge." A "slightly forward but exceedingly rich-sounding top end" created a lush sense of presence that was only slightly offset by a loss of air and space. Bass response, though, was everything "a non-organ-loving music-lover could ever want," he claimed. "You don't get something for nothing," JA cautioned, "and the price to be paid for the Response 2.5's impressive bass extension is low sensitivity." This will be somewhat ameliorated by the speaker's fairly stable 8 ohm impedance. Even so, careful amplifier matching is indicated. (Vol.19 No.1)

PSB Stratus Gold i: \$2549/pair

"Enthusiastically recommended" by JA, the latest version of the Stratus Gold uses the same drivers as the original, but places them in a slimmer, deeper cabinet. "The midrange was clean and uncolored, the stereo imaging well defined and stable, and the bass generous without being boomy. Extreme highs were a little mellow, but this was not a bad thing.... There was no [midrange] coloration that I could readily identify.... Where a recording had true bass information, the speaker reproduced it in full measure." Slight HF "coldness" not a serious flaw, but noticeable in context of "superbly clean" midrange. Gloss black finish adds \$300/pair. (Vol.20 No.10)

Sonus Faber Concerto Grand Piano: \$3500/pair

Two-way floorstanding loudspeaker that impressed JA and had MF breathing heavy. "After three months in my system I still can't pin down any serious sonic glitches or easily identifiable character. Instead, I hear music the way I like it: music liberated from the confines of the box and convincingly sized in three-dimensional space; music that doesn't call attention to its having been frozen in time on vinyl or polycarbonate, to be thawed out later.... The Grand Pianos offered an impressively coherent picture, holding together as a musical entity." His only quibble was "a gradual and mild HF rise... that gave the speaker a slightly forward presence." Optional stone isolation bases cost \$500/pair. (Vol.21 No.5)

Sony ES SS-M9: \$3500/pair \$\$\$

A high-end speaker from Sony? JA sez you-betcha. "Neutrality balanced with well-defined imaging, a clean treble, and truly excellent low-frequency extension," he enumerated. Minor flaws, including "a somewhat polite top octave," are "outweighed by the things it emphatically does right." Price is for cherry veneer. Black finish adds \$500/pair; piano finish adds \$7500/pair! (Vol.19 No.9, Vol.20 No.1)

Thiel CS6: \$7900/pair \$\$\$

"The CS6 offers high perceived value," JA said. "It is beautifully constructed, well balanced, and, once set up optimally, with a gutsy amplifier and high-quality sources, sounds simply superb.... dynamics were startlingly natural... forceful and clean deep-bass presentation gave the music a powerful foundation." However, "the midrange didn't offer quite the same degree of clarity or cleanliness that so distinguished the bass or treble octaves.... But for me, at least, this was a minor problem, offset by the many things the Thiel did right." But it does keep the CS6 from scaling the Class A heights. (Vol.21 No.3)

Totem Acoustic Mani-2: \$3995/pair (stands necessary)

JA's effusive encomium noted that the Mani-2's "combination of clean treble, transparent midrange, natural dynamics, and powerful extended bass allowed the speakers to step to one side, allowing the music to communicate in a most effective manner." (That's British for *he liked 'em a lot*.) While \$4000 for a pair of small stand-mounted speakers may not appear good value, JA pointed out that the Mani-2 produced a sound that belied price and size, noting that it would perform admirably in rooms unsuitable for more physically imposing speakers. "Enthusiastically recommended." Matching Target R2 stands cost \$649/pair. (Vol.19 No.2)

Vandersteen 3A: \$2595/pair \$\$\$ ☆

TJN thinks the 3A "sounds terrific with a wide range of program material." He also notes that, while it sounds "just a bit sweet and forgiving, it doesn't go so far... that it's insensitive to the equipment feeding it." While not the last word in *jump factor*, they make up for that "in sheer listenability," he says. Sound Anchors rear braces cost \$200/pair. (Vol.16 Nos.3 & 4, Vandersteen 3; Vol.18 No.4, SGHT.1 No.2, 3A)

B—Restricted LF

Audio Physic Step: \$1795/pair ☆ (stands necessary)

Well-made reflex-loaded minimonitor from Germany that, when listened to well below the tweeter axis, will get the best from high-quality electronics and sources, as long as it's not played too loud. Soundstaging is excellent—well defined and deep. Useful bass extends down to about 60Hz. Matching stands—essential to tilt the speaker back at the right angle—cost \$250/pair. ST's preliminary auditioning of Special Edition version has him raving. (Vol.17 No.10)

B&W CDM 1: \$1100/pair \$\$\$ (stands necessary)

"Quality rather than quantity," raved JA, who was hard-pressed to fault these affordable small monitors. The midrange is "fundamentally neutral... [and] superbly clean and transparent," although somewhat forward compared to his (8x more expensive!) reference. He perceived "some slight exaggeration of the upper bass" and would have liked a tad more bottom-end extension. "But the Law of Diminishing Returns is kicking in," he observed, "making the CDM 1 an excellent value." (Vol.19 No.6)

Cabasse Farella 400: \$2495-\$2695/pair depending on finish

Two-way, floorstanding, reflex speaker that ST actually bought and kept! "Nice, neutral, detailed sound with wonderfully articulate, well-damped bass," he reports. "The bass on this speaker has got to be heard—it's superb, considering the speaker's relatively small size. It's... tight, controlled, richly defined." 94dB sensitivity a plus for those looking for a companion to low-output amplification. (Vol.20 No.4)

Genelec 1030AMP: \$2198/pair (stands necessary)

JGH rated this powered minimonitor *very* highly for its top end, which he found essentially free from coloration but somewhat reticent: "These speakers are probably as good a compromise as I've heard between the intelligibility requirements of soundtracks and the euphonic 'musicality' demanded by high-end audiophiles." The matching 1092AP active subwoofer is not recommended, however, due to its rather ill-defined bass. Current version differs from that reviewed in that it is magnetically shielded. (SGHT.2 No.2)

Martin-Logan Aeries i: \$2300/pair

This upgraded version of the Aeries substantially improves upon the original, insists ST. A new bass driver and crossover enable the electrostatic panel to blend even more seamlessly with the woofer. Sam sez, "The bass is deeper, tighter, even more tuneful.... The new Aeries has more top-end extension, more sparkle.... Off-axis listening is better." Sounds best in smaller rooms—ST speculates that his 17' by 27' by 7.5' room represents about the upper limit—and requires careful placement. (Vol.20 No.7)

Platinum Audio Solo: \$1695/pair \$\$\$ (stands necessary)

This diminutive speaker impressed JA as being a serious contender, especially at its new lower price. "All that bass coming from those little boxes," was the oft-heard refrain during his audition. However, there is a price to pay for that impressive LF extension—they need lots of juice! Puny amps need not apply. There is also a slight loss in terms of absolute definition. That said, he found the Solo's lack of midrange coloration praiseworthy, adding that, coupled with excellent clarity, it allowed musical detail to be easily perceived. "A must-audition speaker for the bass-loving audiophile with a small room," he concludes. Matching PS-20 pedestal stands—essential—cost \$329/pair. (Vol.18 No.11)

ProAc Response One SC: \$2100/pair \$\$\$ (stands necessary)

Upgraded version of Response One S features new woofer and a crossover modification. "Touched by magic," said WP. Incredibly open and spacious, possessed of "phenomenally clean midrange," the Response One SC has "an effortless presentation that transports you from your listening room to the performance space with seeming ease." Particularly good with tubes, even low-watt SETs. Lacks deep bass, but subjectively sounds satisfyingly full. (Vol.21 No.3)

Professional Monitor Company LB-1: \$2160-\$2440/pair depending on finish (stands necessary)

This two-way, stand-mounted, magnetically shielded transmission-line loudspeaker impressed LG with its "unfatiguing, neutral sound, transparency, and three-dimensional soundstaging." Although its midrange performance didn't equal his longtime reference Quads, "it did hold its own in that part of the spectrum with full-range dynamic speaker systems costing several times as much." PM concurs: "It sets an exceptional standard for small monitors, with stunning imaging and transparency." However, he notes, "It has limited bass and loudness capability, lowish sensitivity, needs a tall stand, and must sit well clear of walls." Matching spiked stands cost \$399/pair. (Vol.21 No.5)

Ruark Equinox: \$4000/pair

"The real deal," KR enthused—"a high-end loudspeaker with few compromises in performance...they have few deficits, aside from their inability to pump a lot of air at the low end. They threw a huge soundstage, were balanced at both high and low listening levels, and were remarkably uncolored, if powered appropriately and located carefully." Don't pass up a chance to audition them, he suggests. (Vol.20 No.2)

Sonus Faber Concerto: \$1850/pair (stands necessary)

"There's great musical potential here," said MC, especially if particular care is given to system matching—he felt they needed at least 70Wpc if you want to hear what they can do. "The presence range was slightly dull on first hearing, but I quickly came to accept this, enjoying the fatigue-free sound levels as well as a quality of musical flow and rhythm usually the province of much more expensive loudspeakers." Piano-grade black finish for side panels adds \$200. MF added that "With good source material, a stereo pair of Concertos can create a highly transparent, uncolored, finely detailed sonic picture that blends focused, pinpoint imaging and voluminous three-dimensional soundstaging." Moderately high stands are required for optimal sound quality—the listener need not be able to see the top of the cabinet. (Vol.21 No.1, SGHT4 No.6)

Tannoy System 10 DMT II: \$2200/pair (stands necessary)

Unique "Dual-Concentric" speaker uses a horn tweeter mounted in the throat of a woofer cone in a ducted bass-reflex cabinet. JGH was smitten with their smooth, detailed, natural if rather midrange-forward sound and truly impressive dynamic range. But they never editorialized, he claimed. "I will not recommend these to audiophiles because...they only sound gorgeously seductive when the recording is that way. But I will enthusiastically recommend them to home-theater buffs and to music lovers who know what the real thing

sounds like. These Tannoys are what high fidelity was all about from the get-go." Price of shielded version for home-theater use is \$1350 each. (SGHT3 No.1)

Thiel CS1.5: \$2190/pair \$\$\$ *

"Among the most exciting speakers I've encountered in years!" exclaimed the occasionally occupationally jaded Mr. Tellig, adding that, "If you're after truth of timbre, resolution, superb soundstaging...midrange magic and clarity...the CS1.5 may be just what you want." MK concurred, noting that the 1.5 reveals "Detail, detail, detail," allowing him to get *all* the way into the recording. Noting a "hashy" quality in the 7kHz region, he observed that it nonetheless did not inhibit his enjoyment of the speaker. Dynamics are naturally limited; while the second-smallest Thiel goes lower in the bass than you might expect, it's still a "wonderfully sane" speaker "that's about quality, not quantity," in the words of ST. "A lot of speaker at an affordable price," JA said. (Vol.17 No.8, Vol.18 No.11, Vol.19 No.5)

Totem Signature Model 1: \$1995/pair (stands necessary)

An improved parts package marks the difference between the Model 1 and the Signature version. LG writes of "astounding LF response for such a small speaker, with improved reproduction of vocal music, dynamics, soundstaging, and bass response [compared to] the original." It also, he says, "plays louder and overloads more gracefully than the manufacturer's larger, more expensive Tabù loudspeaker." With the Model 1 (\$1595/pair), he admired its "smooth, sweet highs, strong dynamics, palpable three-dimensional imaging, and strong bass response." Although he cited an on-axis upper-midrange prominence, he admired their "tight, solid, rhythmic bass and palpable imaging." (Vol.16 No.4, Model 1; Vol.21 No.1, Signature Model 1)

Vienna Acoustics Mozart: \$2500/pair

This compact, floorstanding two-way impressed RD with a big sound that belied its diminutive footprint. "The soundstage was deep and wide, extending well past the walls of the listening room...Image size was realistic—no toy violins or baby guitars here, nor were they bloated...but it's all for naught unless the speaker is able to reproduce vocal and instrumental timbres in a manner that resembles what you'd hear live." Which, he felt, they did. ST demurred, calling them "Bland, man, bland." When testing them in Santa Fe, we discovered the tweeter to be wired out-of-phase with the midrange/woofer drivers—the manufacturer insists this results in "delivered sound" that is superior—resulting in a lack of presence in all but the largest rooms. One can easily reverse the speaker leads on one set of drivers with these biwired speakers, or tilt the speaker back as RD did. Either way, the resultant sound is then worthy of recommendation. (Vol.20 No.1)

Wilson Audio CUB: \$5900/pair (stands necessary)

TJN thought it would be easy to dismiss the CUB: "No real bass, some midrange coloration and low-treble brightness, and not quite enough low-end sparkle." But, he allowed, that short list doesn't factor in their "openness, dynamic punch, and all-around ability to make soundtracks come alive." Their "forward, immediate presence...might prove to be a liability in some systems...If all the pieces don't fit—particularly in a two-channel system—you won't get the sort of sound quality you have a right to expect at these prices. However...it isn't all that difficult to get things right with the CUBs." Price is for black laminate; painted, \$6640/pair; wood veneer adds \$640/pair. (SGHT4 No.1, Vol.21 No.4)

C—Full-Range**Epos ES22: \$2495/pair**

While these floorstanding three-ways did not offer the last word in refinement, imaging, or bloom, ST felt they compensated with "rhythmic drive that is as close to live as I have ever heard from loudspeakers... Quite special," he avowed, "and very different from the average loudspeaker." (Vol.19 No.5)

Jamo Concert 11: \$3600/pair (stands necessary)

"Sounds very matter of fact," said SS, "with little extra

midrange warmth or schmaltz. Male voices never sound hooty or boomy through the Concert 11s, even at high SPLs...The top end is extended and smooth, but not sweet...I was also impressed with the low-frequency dynamic capabilities of the Concert 11s." Soundstaging is decent but "not as wowie-zowie as some designs." Overall balance somewhat on the cool side of neutral. (SGHT3 No.4)

Linn AV 5140: \$2595-\$2795/pair depending on finish

Magnetically shielded, three-way, reflex-loaded floorstanders that MK deemed "well balanced" and "competitive." "They have enough bass to do credit to hard rock...smooth enough midrange for classical...smooth enough treble for new wave, enough detail for purist-miked recordings, and bumpin' dynamics for da funk." Not to mention high power-handling capabilities and ease of placement. HF sounds slightly shelved-up compared to the midrange and LF regions. (Vol.20 No.5)

NHT 2.5i: \$1300/pair \$\$\$

"Improved" version of the 2.5 features a new 1" metal-dome tweeter and 6.5" midrange driver. El Bec was impressed by its "serious bass," natural ("not over-etched") detail, and lively presentation. Perhaps, he felt, the upper-bass/lower-midrange exhibited "slight (and I do mean slight) leanness," but, he allowed, "this perception may have been accentuated by the power of the lower bass." A most important product, "offering such a high level of performance at a real-world price." Price is for black laminate finish; mahogany or sycamore laminate adds \$150/pair. (Vol.20 No.10)

Paradigm Reference Studio 100:**\$1800-\$2250/pair depending on finish**

This three-way, four-driver, floorstanding, reflex-loaded design actually had as experienced a reviewer as TJN asking, "Is [this] the best loudspeaker in its price range?...It combines a solid bass with an uncolored midrange, fine soundstaging, and a detailed, open top end." Shortcomings include an occasionally crispy top end and (sometimes) an audible edge in the mid-treble. "But," the good major concluded, "you should definitely give the Studio 100s a listen." Borderline Class B. (Vol.20 No.8)

Professional Monitor Company IB-1S: \$4500/pair (stands necessary)

KR was of two minds about this three-way stand-mounted transmission-line speaker. "[Its] strengths are its superb harmonic integration across the frequency spectrum and its almost complete lack of grain and blurring. In addition, its rendering of fine dynamic modulations is as good as any...I would have preferred better definition in the lowest tones and a bit more image width." He concluded, "I respected this speaker more than I loved it." PM adds, "It's laid-back to a fault, but otherwise high impeccable...with delicacy, transparency, and even a measure of dynamic literacy that can match many models at twice or thrice the price." Matching stands cost \$499/pair. (Vol.21 No.9)

PSB Stratus Bronze: \$1100/pair \$\$\$

MK called this floorstanding "2+ way" "one fine-looking, affordable speaker...With good to excellent performance in just about every specific area you can think of, the Stratus Bronze is a bona fide bargain. Music lovers who want plenty of bass need look no further. Rock'n'roll fans especially should carefully consider its virtues before choosing another." (Vol.21 No.7)

Ruark Templar: \$1200/pair \$\$\$

"These li'l doogifiers have no business sounding as enjoyable as they do!" exclaimed WP. While the infinite-baffle design gives somewhat limited bass with tight, punchy definition, he declared the soundstage to be smallish, although exceedingly well defined. In terms of pace and drive, however, he felt them to set a high standard. (Vol.18 No.12)

System Audio 1070: \$2500/pair

BW called this two-way, twin-ported, borderline Class B, floorstanding speaker "a rugged, reliable performer that never let me down, regardless of the material I threw at it. With its punchy bottom, lyrical midrange, and extended top end, it was capable of providing sus-

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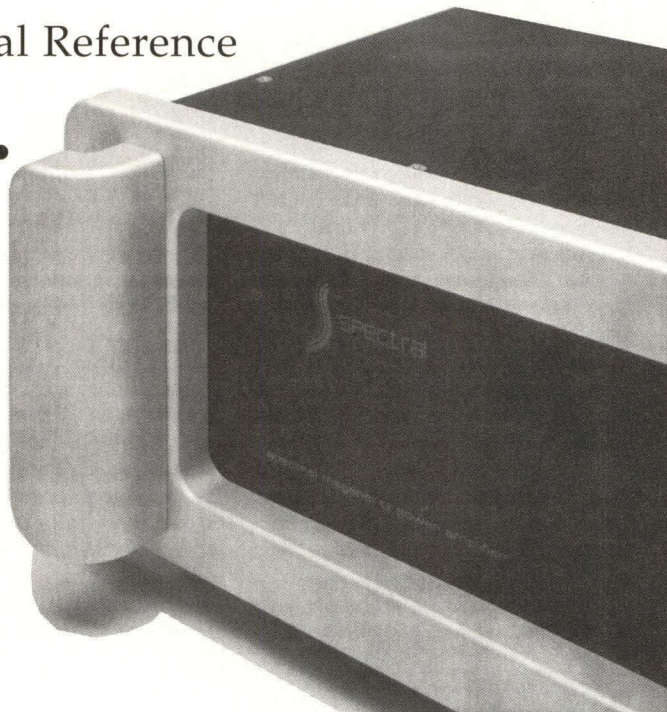
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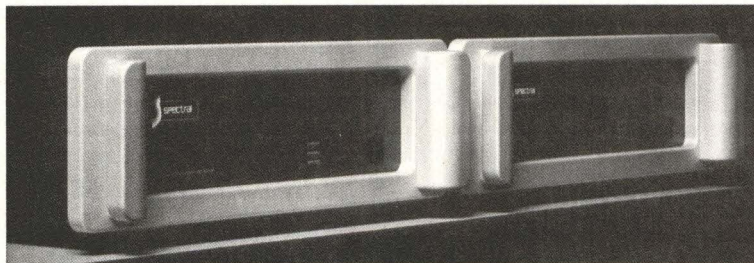


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tained satisfaction... A limited bottom octave was the speaker's only drawback—substantial output from 20 to 40Hz is asking a lot from something that's closer to a minimonitor than to a full-range speaker." (Vol.21 No.8)

Thiel CS.5: \$1450/pair ☆

LB likened the baby Thiels to a good flanker: "they go deep and wide" in their soundstage. Detailed but not edgy, and capable of producing honest bass—just not the lowest octaves. Not designed to play "REALLY LOUD," LB reports, but sufficient for most listeners. His final assessment: "I think they're swell and provide a lot of sound for the money." West Coast price is \$1480/pair. (Vol.18 No.10, Vol.19 No.5)

Vandersteen 2Ce: \$1295/pair \$\$\$ ☆ (stands optional)

The latest version of Richard Vandersteen's classic three-way design has a larger cabinet and a revised drive-unit. The intrinsic balance is a little on the warm side, with a forward midrange and rather limited transparency and image focus. However, while there may be other loudspeakers that perform better than the 2Ce in one or more areas, there is not a speaker in its price range that does so little wrong across the board. TJN wrote that it spreads its compromises so that there is no particular area of weakness; DO was impressed by the 2Ce's tonal balance and sense of pacing; JA noted that it offers more extended lows than its competition. A great value for the dollar. The Vandersteen bases for the 2Ce cost \$125/pair. A Signature version (\$1495/pair) is now available, review under way. (Vol.16 Nos.4 & 9)

C—Restricted LF

Acarian Alón Petite: \$995/pair \$\$\$ (stands necessary)

"Let's just dub them 'first among equals,'" suggests WP of this affordable minimonitor. Care must be taken not to play them too loud or attempt to take them too low, but other than those caveats, he found them to "perform *way* out of their price class." Refined performers and imaging champs, he extols. RJR, also a fan, claimed that, paired with a quality budget integrated amp, the Petite sets a new standard for an under-\$2k system. Must be tilted back for best performance. Santos rosewood veneer adds \$200/pair. RJR called Alón's \$500 PW1 woofer "the perfect accompaniment to the Petite for those who want more bass extension." Perhaps so, muses WP, but the \$500 could go a long way toward a better amplifier, which might control the Petites better and accomplish much the same thing. Home audition of the woofer recommended. (Vol.19 No.1, SGHT.2 No.3, Vol.20 No.2)

Aerial Acoustics 5: \$1800–\$2400/pair depending on finish (stands necessary)

"Make no mistake," proclaimed RH, "the 5's midrange and treble [are] world-class." However, he felt them to be somewhat reticent in the bass, calling their LF extension "rather limited, even considering their size.... But the bass I did hear was superbly articulated and detailed." The 5s fared better when goosed a bit, RH discovered. "Openness, dynamic expression, and soundstaging... all of these qualities improved as the volume was increased." WP feels that the right amp goes a long way toward wresting the most out of the 5s—pairing them with the Classé CAP-100 and Krell KAV-300i produced controlled, open, authoritative sound even at low listening levels. Matching stands cost \$500/pair. (Vol.20 No.4)

B&W DM302: \$250/pair \$\$\$ (stands necessary)

"What kind of speaker *can* you get for \$250?" inquired WP before answering, "One that disappears...; one that tells you what's on the recording with surprising accuracy; one that shows you what all this audio brouhaha is about. True, you don't get a lot of low-end information—although most listeners will be surprised at how much is there—and there are limits as to how loud you can listen. But these are minor quibbles. When you consider that even the most expensive loudspeakers are compromised, it's amazing how much performance B&W has wrested out of a \$250 small mon-

itor speaker." PM thinks "the 302 proves a fine match for 'typical budget electronics,' if a bit cautiously balanced for serious kit." 1997 "Editor's Choice." (Vol.20 Nos.10 & 12, Vol.21 No.4)

Chario Academy One: \$2000/pair (stands necessary)

"Offers a strong bass response and a warm, smooth sound," said LG. "When driven by high-powered solid-state amplification, the Chario Academy has good dynamic range and bass impact, and is smooth and listenable." Must be placed on tall (30") stands, JA advised. "Sitting with your ears even just a small distance above the Chario's tweeter axis results in a severe suckout in the crossover region and a lack of top-octave energy." LG recommends the speaker for its imaging and even tonal response. Matching stands cost \$495/pair. (Vol.21 No.3)

Dunlavy Audio Labs SC-1 AV: \$1500/pair (stands necessary)

Its lean, somewhat overdamped LF balance and somewhat bright mid-treble will make careful system- and room-matching essential. But in the right context, the little Dunlavy's clean, clear midrange, grain-free HF, and well-defined imaging will give a lot of musical pleasure. Needs a lot of break-in, JA found.¹ The speaker also works very well in a home-theater setting, points out RD, adding that the SC-1 both makes an excellent center-channel speaker and benefits from a good subwoofer. Sounds best with its grille on. SS found the current AV version, despite drive-unit revisions that make it considerably more expensive, to sound remarkably similar. (Vol.17 No.12, SGHT.4 No.2)

Dynaudio Contour 1.3: \$2099/pair (stands necessary)

"Among the very few loudspeakers at any price that are, as near as I could tell, totally uncolored," exhorted RN. "And they imaged like bastards... the only obvious compromise they made was in sensitivity—but in today's market, watts is cheap." MasterStands add \$399/pair; UltimaStands add \$699/pair. A new version is under audition by JA. (Vol.19 No.11)

Energy Connoisseur C-2: \$600/pair \$\$\$ ☆ (stands necessary)

"No wimpy minimonitor sound here," proclaimed TJN. Instead, these little-speakers-that-could "produce a satisfying sense of low-end extension, an extension not bought at the expense of the midbass.... The treble will simply tell it like it is," while the midrange "was notably uncolored." Revealing and uncolored, "they definitely serve the music," he felt. (Vol.19 No.9)

Epos ES12: \$1095/pair \$\$\$ (stands necessary)

"Balance is what you get from the Epos ES12," asserted JA. "Its faults are small, and balanced by excellent performance across the board.... There was very little to get in the way of my music." The top end was a little "mellow... but this did not mean I found the speaker to sound dull or uninformative." He found the Epos's high frequencies and midrange to be remarkably transparent. "The ES12 might well be the loudspeaker bargain of the year," he concluded. Indeed, it was *Stereophile's* "Budget Component of 1997." Matching stands cost \$175/pair. (Vol.20 No.4)

JMlab Micron Carat: \$745/pair in black vinyl \$\$\$ ☆ (stands necessary)

The original version of this French minimonitor had a peaky and fatiguing lower treble that could be laid at the feet of its Kevlar-domed Focal tweeter. Current production features a new titanium inverted-dome tweeter that is significantly smoother and less colored, leading to an enthusiastic recommendation from JA and DO. "The upper mids are sweet and texturally smooth," quoth the latter. Though it lacks bass extension, it gets the tenor region right, the sound of the cello being timbrally correct. "Offers a good blend of

clarity, dynamics, and imaging accuracy," avowed JA, but with lightweight bass and correspondingly tipped-up treble balance. Paired with the right amp (most likely tubed), can contend with the soundstaging champs. Price is for black vinyl finish; auburn finish cost \$895/pair. (Vol.14 Nos.9 & 10; Vol.19 No.6)

Joseph Audio RM7si: \$1299/pair (stands necessary)

Mellow-balanced—but naturally detailed—minimonitor that, JA asserted, represents good value. While the relaxed presentation of the HF rendered even the fizziest rock recordings in an acceptably pleasing manner, JA had minor quibbles with the midrange response and stereo imaging. Strongly recommended, however. Rosewood veneer adds \$200/pair. Signature version (not yet auditioned) uses a metal-cone woofer and costs \$1699/pair. Upgrades are available. (Vol.19 No.2)

KEF RDM Two: \$1200/pair (stands necessary)

Two-way design incorporates KEF's "Uni-Q" technology, which places the 1" tweeter in the center of the 6.5" woofer. ST was most struck by their "combination of overall clarity and the ability of the speakers to place soloists and their instruments precisely within the soundstage." MF "loved five of 'em in home-theater mode," lauding their "nice, tight three-dimensional picture with good depth presentation." He also praised their smooth frequency response and rich overall balance, despite their lack of deep bass. WP, however, was bothered by their sonic signature, which he described as distant and somewhat dark. Neither MF nor ST found this obtrusive, so careful audition is recommended. (Vol.20 No.10, Vol.21 No.3, SGHT.4 No.1)

KEF LS3/5a: \$1450/pair in teak

(Santos rosewood adds \$200/pair) ☆

Spendor LS3/5a: \$1250/pair (stands necessary) ☆

A major 1988 revision of its crossover was meant not so much to "improve" this venerable BBC design (first seen and heard in 1975) as to bring production back on target. Still somewhat compromised in overall dynamics, HF smoothness, and clarity when compared with Class B and C miniatures, and having a distinctly tubby midbass, the 1990s version of the LS3/5a still has one of the least colored midbasses around, throws a deep, beautifully defined soundstage, and has a slightly sweeter top end, with less nasality than it used to have. Works well on classical orchestral or operatic music. The sound, however, is sometimes not as musically involving as it could, or should, be. CG hates the speaker; MC blames its lack of pace on the current woofer's modified-vinyl surrounds (see Vol.15 No.11, p.89) compared with the original's rubber surrounds. Originally only manufactured by Rogers, the LS3/5a is also manufactured by Spendor, Harbeth, and KEF. The Harbeth (currently without US distribution) has one pair of input terminals; the Spendor and KEF are biwireable with four gold-plated Michell connectors—see "Industry Update," Vol.15 No.2. (Vol.3 No.12, Vol.4 No.1, Vol.7 No.4, Vol.12 Nos.2 & 3, Vol.14 No.10, Vol.16 No.11)

Linn Tukan: \$795–\$895/pair, depending on finish (stands necessary)

RH found the Tukans forgiving of less than optimal placement—a real bonus for those with limited siting options. "They threw a wonderful soundstage from the most unlikely locations; but when positioned optimally [they] produced a *stunning* soundstage, with transparency, palpability, and pinpoint spatial resolution." Bright and lively tonal character "heightened the sense of presence and detail, but at the expense of some etch and... long-term fatigue." However, "there was something musically engaging about this little speaker," he concluded. "A must-audition product." (Vol.20 No.4)

Paradigm Active/20: \$1600/pair \$\$\$ (stands necessary)

Active (50W for tweeter, 110W for woofer) two-way loudspeaker that JA described as "a superb-sounding, well-engineered bargain." Low-frequency definition was "okay," and there was "a slight dryness in the mid-treble... but this was minor in degree and didn't get in the way of the music." Incurable sometimes-head-banger JA was able to trigger the thermal protection circuits repeatedly—those who listen consistently at

1 A tip from TJN for breaking-in speakers: Place them face to face, but wired out of phase. You can then drive them hard with pink noise or the "Break-in noise" track from *Stereophile's Test CD 3*, but there's less sonic pollution to annoy the other members of your family. To a large extent, the speakers' outputs cancel.

Edge of the Art

The Ultimate Loudspeaker

Avalon Eidolon

.....

From the moment you hear the remarkable **Avalon Eidolon** (\$19,500), you'll know you're hearing the finest dynamic loudspeaker ever designed. The margin of performance offered by the Eidolon is not subtle. You will know it the moment you hear it. The following comments by our customers are typical of the unprecedented response we've heard about this astonishing speaker.

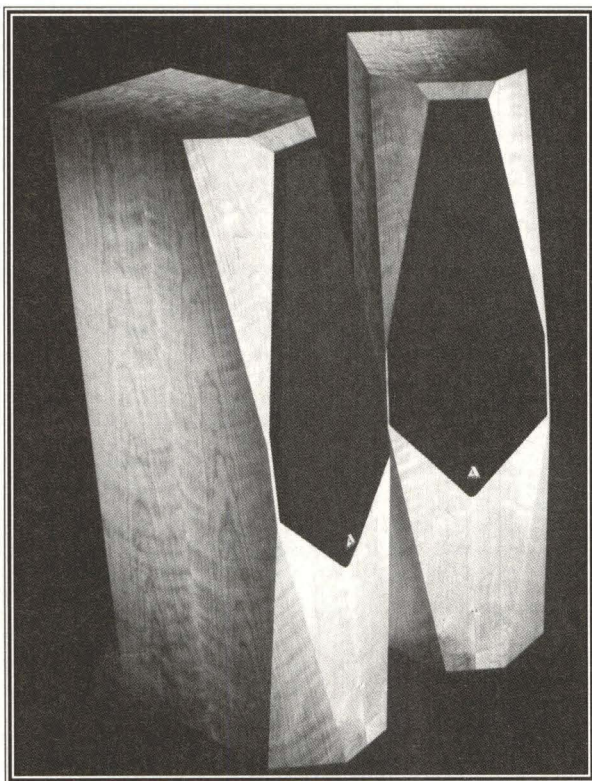
"Music is an emotional experience. Great recorded performances can only be realized by the listener when you become part of the event. I've worked with and auditioned many great speakers, but none have involved me in the musical experience with realism, depth, dynamics, and resolution like the Avalon Eidolon. I wasn't just listening, I was participating!"

John Vanore, Jazz Trumpet with Woody Herman Orchestra, Producer for Michael Crawford (Atlantic Records), and Producer for Angel/EMI Records.

"I assumed you needed a big speaker to get a lifesize image and soundstage. The Eidolon is the most realistic speaker I've heard, with a huge 3 dimensional soundstage, stunning dynamics and bass reproduction, yet is a normal sized speaker. Its clarity and resolution go well beyond anything I've heard."

In retrospect my Genesis 300's were a blur. I auditioned the Watt/Puppy's, X-1's, and the Eggleston Andras before hearing the Eidolons. The Eidolons are not only better, but by a big margin."

**Richard Bromer M.D.
Former Genesis 300 Owner**



For anyone auditioning speakers over \$10,000, hearing the Eidolon is a must. It is a milestone in the industry. The Eidolon sets new performance standards to such a degree that it must be recognized as a classic design that will for ever change what we consider to be acceptable in edge of the art performance.

AVALON
ACOUSTICS

Designed by Neil Patel for Avalon acoustics.



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high levels should take note, though Paradigm has since modified the protection circuitry. Yet at safer levels, their excellent stereo imaging, soundstaging, and ability to reproduce "music's broad sweep" impressed him. "Enthusiastically recommended as the affordable reference for minimonitor sound quality." Matching Premier stands cost \$179/pair. (Vol.20 No.11)

Paradigm Reference Studio 20: \$650/pair \$\$\$ (stands necessary)

Passive, less tightly specified sibling to the Active/20. "From the upper bass to the upper midrange, the harmonic structures of sounds, their timbres, were as natural as I'd heard from any speaker," RJR said. "The reproduction of vocals, woodwinds, and brass instruments on well-engineered acoustic recordings was spooky in its realism." Minor quibbles: "HF range was slightly high-lighted, giving the sound a rather crisp presentation," and, while the bass was "extended, natural, quick, dynamic, tuneful," it had "a slight roundness or warmth in the 60–80Hz range." Still, "by a wide margin, the finest speaker under \$1000/pair I've ever heard."

Matching Premier stands cost \$179/pair. (Vol.21 No.2)
Platinum Audio Studio 1: \$995/pair (stands necessary)

ST calls this ported two-way "a good buy." "The soundstaging is superb... the clarity is exceptional... What's more, the clarity of the tweeter is not compromised by any muddiness or lack of speed from the 5" midrange/bass driver." Careful amplifier matching necessary. Some will find the tonal balance a shade relentless, but "there's a wonderful sense of timing and pacing to go along with all that crisp, clean, articulate detail." (Vol.20 No.7)

PSB Stratus Mini: \$1049/pair \$\$\$ (stands necessary)

"Superbly engineered... offering a lot of performance at a price lower than you would expect," declared JA. Treble somewhat laid-back and bottom-end extension benefits from judicious boundary reinforcement, yet "when everything is right... the result is clean, coloration-free, grainless, musically satisfying sound, with superb soundstaging." Gloss black adds \$100/pair; matching MS-2 stands cost \$199/pair. (Vol.19 No.6)

Totem Acoustic Tabu: \$2995/pair (stands necessary)

While LG reveled in the Tabu's "open treble response, transparent midrange, and palpable, three-dimensional sonic image," he notes that they have a tendency to become "analytic and show an exaggerated presence effect when playing sopranos, chorus, or rock." JA was disappointed in their measured performance, noting a significant lack of energy in the crossover region—frequently indicative of hollow sound or a distant character, unless listened to off-axis. 12"–18" stands recommended for that reason. (Vol.20 No.2)

D

B&W DM602: \$550/pair (stands necessary)

Reviewed in the context of a home-theater system, the DM602 sounded "warm, natural, and—dare I say it—musical," felt SS. TJN also recommends this British two-way. (SGHT2 No.3, Vol.19, No.9)

Mission 731i: \$299/pair \$\$\$ (stands necessary)

"A masterpiece that will enable even the most destitute of music lovers to gain admission to our exciting hobby," raved RJR. Of the current production version, RJR felt "the new silk-dome tweeter in the latest version of this honey addresses the earlier speaker's greatest shortcoming: dark and recessive high-frequency performance." He's also chuffed about their "level of transparency and top-end sparkle... To these ears, the speaker now competes with most speakers I've heard under \$1000/pair." PM and WP like 'em too, although they're a tad more reserved, calling the 731i a match for B&W's DM302. (Vol.19 No.11, Vol.21 No.4)

NHT SuperZero: \$250/pair \$\$\$ ☆ (stands necessary)

Not just limited bass, but *no* low frequencies at all, leading to a thin balance that fails completely on orchestral music. If, like SS, you play a lot of large-scale classical

music, you'll miss the point of this tiny speaker. With the right kind of music, "the best-sounding speaker under \$1000!" sez CG, who was impressed by the resolution of detail, accurate midrange balance, and incredibly spacious soundstaging. The treble is a touch exaggerated, however, which is further emphasized by the speaker's lack of bass. (Vol.17 Nos.1 & 9)

Polk RT5: \$330/pair (stands necessary)

This two-way, stand-mounted, magnetically shielded, reflex-loaded loudspeaker "is a lot of speaker for the money," WP said. "They sounded huge, beefy, and very musical.... [They] never sounded bad—their slight tendency toward warmth and slight loss of HF sparkle were certainly not offensive traits, and could even work in the speaker's favor when paired with inexpensive electronics.... Some listeners will be less forgiving than I was of the Polk's slight unevenness in tonal response, but I consider this to be a relatively minor problem considering how musically engaging the speaker was otherwise." Don't use high speaker stands—ear height or slightly lower is preferable. (Vol.21 No.4)

Signet SL256: \$360/pair (stands necessary)

This little reflex two-way "could make you think that the knee in the price/performance curve... starts lower than you might have previously believed," proclaimed MK. He found stands—good ones—essential for producing the best sound. No true low bass is present, but this is subjectively offset by "forgiving" HF. Yet, Muse reflected, "despite the slightly soft balance, they did not shy away from uncovering subtle yet important musical details in the top end of their range." And "their particularly seductive midrange well serves vocal music, woodwinds, and guitars." (Vol.20 No.6)

Totem Mite-T: \$895/pair (stands necessary)

SS found this two-way symmetrical-array design was limited in dynamic expression and erred "slightly on the warm side of neutral. The lower midrange and upper bass are more prominent, while the upper midrange and lower treble are a bit recessed," which limits the speaker's apparent resolution. "The good news is, the Mite-T speakers never sound hard or nasty at high volumes.... Despite their dynamic limitations and slightly reticent upper midrange, the Totems are pleasant and seductive." (SGHT4 No.5)

E

Celestion MP1: \$299/pair (stands necessary)

Although he finds the MP-1's overall presentation lightweight, with little midbass and no deep bass, JE nonetheless admires its compelling rhythm, pace, and unflinching spaciousness. Ultimately, though, he feels this last to be too much of a good thing. Not suitable for high-end music-only systems, he concludes, but its shielding and high sensitivity make it a natural addition for multimedia computing or home-theater use. Celestion's \$449 CSW Mk.II woofer usefully extends the bass. (Vol.18 Nos.6 & 10; SGHT2 No.2)

Optimus Pro LX5: \$300/pair (stands necessary)

Based on a design by Linacum (who assemble the tweeter subassemblies), the LX-5 has become a cyberspace favorite, with many threads spun concerning modifications. Low frequencies boomy and undefined, but the high frequencies sound so promising, sez JA, that one wants to do *something*. Try stuffing the ports with drinking straws, he advises. At full price, they face stiff competition from PSB and NHT, but, purchased during one of RadioShack's frequent sales, they have a lot to offer the classical music-loving audiophile. They also shine as surround-sound speakers. (Vol.18 No.6)

PSB Alpha: \$219/pair \$\$\$ ☆ (stands necessary)

"An outstanding audio bargain," proclaimed JE of this little two-way. Designed to be used close to the rear wall, the Alpha plays surprisingly loud, without strain, though toe-in is best avoided to minimize hardness. Optimum with electronics that sound soft. Imaging somewhat vague compared with the similarly priced Dana Model 1s. Upper bass a little exaggerated and a bit "hoaty" compared with the NHT SuperZero, but gets the midrange right. (Vol.15 No.7, Vol.17 No.1, SGHT1 No.1)

PSB Alpha Mini: \$199/pair \$\$\$ (stands necessary)

LBJ liked this speaker's "warmly voiced, smartly matched" sound. "There's a place and a need for a rewarding system on this scale, and the PSB package filled the bill." Wide, even, lateral dispersion, but sit with your ears on or just slightly above the tweeter axis. (SGHT3 No.3)

K

Meadowlark Shearwater and Kestrel, Acoustic Research 315HO, Magneplanar Magnepan 1.6/QR, Alón Circe, Audio Artistry Beethoven Grand, B&W CDM1 Special Edition, Genesis G-500, NHT SuperTwo, Thiel CS2.3, Wilson-Benesch The Bishop.

Deletions

Dzurko Acoustics Jaguar no longer available; B&W Matrix 801 Series 3 and Mordaunt-Short 10i Pearl discontinued; Thiel CS3.6, Paragon Regent, and AR 303a not auditioned in too long a time to be sure of current rating; TDL T-Line 3 and Metaphor 2 because of doubts over availability; Thiel SCS2 replaced by new models not yet auditioned; Audio Artistry Dvorak pending auditioning of extensively revised version.

Subwoofers & Crossovers

A

Audio Physic Rhea: \$5995

MF loved this powered (300W) subwoofer. "When the Rhea was properly dialed in, it never thickened or slowed kickdrums or acoustic bass. It didn't attach itself to baritone voices. I wondered whether it was doing *anything* until I played some music that contains really deep, fundamental bass tones... *Then* the Rhea hit me where it hurt. Where I *want* to hurt... Getting those bottom octaves right is expensive and tricky, but once you have them, doing without is not an option." (Vol.21 No.9)

Bag End S18E/ELF 1: \$2680 for ELF 1 crossover, \$820–\$1110 for S18E depending on finish ☆

These relatively small subwoofers have deeper extension than any others LG has experienced in his listening room. Some claim signal below 60Hz is nondirectional, but LG sez two S18Es "more than doubled the impact, power, and control," offering pitch definition and "room-lock" beyond expectations. The ELF-1 crossover has stereo subwoofer outputs, adjustable crossover points, and customizable limiter functions for both subwoofer and satellite amplifiers. You need a light touch with the gain settings, he cautions, or you risk overpowering your main speakers. (Vol.18 No.5)

Genesis Technologies 900: \$1900

Active 500W sealed-box subwoofer with 15" driver and remote control. "Awesome," said JGH. "Bass frequencies are floor-shakingly deep and impressively authoritarian, but also very detailed, with excellent pitch resolution—and the sub's ability to handle very high levels seems limitless. It never bottomed out, even on the heaviest bass... and the system as a whole never became confused or congested, no matter how much noise I threw at it." Price is for black finish; rosewood veneer adds \$300. (SGHT4 No.1)

M&K MX-5000THX Mk.II: \$2695

TJN has heard few subwoofers that can match the powered MX-5000THX's "ability to make a listener want to jump up and flee with the onset of a transient." On music, he also found it impressive and authoritative—"Up there with the best subwoofers, and, in some respects, at the head of the pack." Mk.II version overcomes the dynamic-range limitations that TJN ran into in his large room with the earlier version. (SGHT2 No.2; SGHT4 No.2, Mk.II)

Edge of The Art

The Ultimate System

The 2C3D System Phase IV



Since winning "Best Sound" at the Stereophile Hi-Fi Show in New York City, we at Overture have continued to advance the art of music reproduction. We are now proud to present the "Ultimate System"—the 2C3D System Phase IV, which offers the highest level of realism ever achieved in an audio system. Each recording offers the listener an "experience" and a level of involvement that is unequalled in the industry. True three-dimensional holographic imaging and unsurpassed clarity, result in a "you are there" feeling that makes the 2C3D System Phase IV the "Ultimate".

Spectral—In this system, Spectral's ultra-linear high speed design is fully exploited. Their uncompromising design achieves the highest level of resolution we have ever heard, with remarkable holographic imaging. This level of performance is made possible in large part from the fastest signal response yet achieved in an audio component. Featured in the 2C3D Phase IV system is the SDR 3000 Reference CD transport, the final link in the Spectral Reference System. To achieve the highest level of performance available, Spectral componentry is an absolute must. **Now in—the ultimate amplifier, the Spectral DMA-360 Monaural Reference. Hear it now at Overture!**

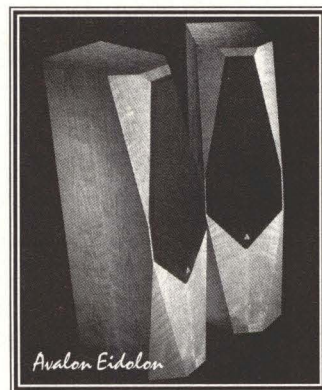


MIT Shotgun EVO/SA—MIT's original Shotgun™ Interfaces established a standard of performance unmatched by any other company's products, even today. Now MIT has revived the legendary Shotgun name for breakthrough new interfaces. The MH-850 Shotgun EVO™/SA Speaker Interfaces and MI-350 Shotgun EVO™/SA Component Interfaces deliver unsurpassed accuracy, integrity, and musicality. This new level of performance allows the 2C3D Phase IV System to reveal every instrument and voice in its proper location, independent of playback level, so that the sources of sound seem to be the performers themselves.

Behind it all, MIT's Z-Series™ Power Line Treatment products provide the ultra-clean AC power that is the foundation of the "Ultimate" system. The sonic improvements these MIT reference-level components bring to the Phase IV System will amaze even the most experienced listener.

ASC—World-renowned acoustic engineer Art Noxon has designed a remarkably flexible acoustic tuning system for this system's listening environment. ASC's unmatched Tubetrap technology allows the Phase IV System to reveal its full potential in any room, including yours.

Avalon—Avalon's newest speaker, designed by Neil Patel for Avalon Acoustics, Inc., the Eidolon, features the fastest signal response of any dynamic speaker, and it enables the Phase IV System to provide the lowest noise floor we have yet heard. The Eidolon offers pinpoint dimensional staging, incredible dynamic contrast, holographic soundstaging with remarkable detail, nuance and resolution. The Eidolon fully reveals the unique qualities of this stunning system. With their beautiful design and compact size (43-1/2" tall), the Eidolon delivers flat response from 20 Hz to 35 kHz, and provides great flexibility in complementing any room decor.



If you are seeking a unique level of musical realism, the 2C3D Phase IV System is a revelation. Please call us to audition this musical masterpiece.



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REL Studio II: \$8000

This powered "sub-bass system" has an adjustable high-pass filter and a DC-coupled 300W amplifier. "It truly lives up to its billing as a *sub-bass* system," WP said. "And it seems to do so with speakers that I thought needed little or no bass reinforcement, as well as with those that benefit from an extra half (or even whole) octave of bottom-end. But it does more than that. It also makes your primary loudspeakers possess even more of those magical qualities you bought them for: more airiness, more sense of space, more magic." (Vol.21 No.7)

Revel Ultima SUB-15: \$2500 each

TJN called the SUB-15 "superb on music... In terms of extension and bass quality, though, it is possible to equal its music performance with less expensive subwoofers. But I've also heard the Revel subs in rooms much smaller than mine... [where] it clearly *can* plumb the depths when required." In his home-theater system, Tom Norton has "never heard more impressive LF performance in a home-theater system—or in a real theater, for that matter... But my praise is strongly tempered by the Revel subwoofer's tendency to audibly overload, which I might be more inclined to forgive in a less expensive, less ambitious product." Matching LE-1 crossover/subwoofer amplifier costs \$6000. (SGHT:4 No.6; see also JA's review in this issue.)

Snell SUB 1800: \$2500 each ☆

Huge, THX-specified, passive subwoofer using an 18" drive-unit that beats out all comers for its combination of bass extension and dynamic range. (Vol.18 No.7, Vol.19 No.3)

Velodyne FSR-18: \$2399

"The subwoofer I'd buy for my listening room," declared LG. "Smaller subwoofers just cannot deliver the FSR-18's high SPL output, bass extension, and low distortion. I need its effortless power for my large listening room, not to mention its freedom from overload, low distortion, pitch definition, myriad user features, and ability to integrate with minimonitors and electrostatics.... The FSR-18's qualities make it the best value going." (Vol.21 No.8)

B

Bryston 10B electronic crossover: \$1295 ☆

Slight sacrifice in image depth and an increase in electronic "edginess" keep this otherwise excellent solid-state crossover from attaining Class A status. Very versatile regarding slopes and crossover frequencies. Balanced inputs and outputs add \$250. (Vol.17 No.5)

REL Acoustics Strata II: \$1195

This reflex-loaded, powered (60W) design "was obviously designed with a set of priorities different from those of the vast majority of today's boomboxes," observed RH. "Moreover, [it] offers a huge range of connections and setup adjustments, suggesting it will work well in different systems and rooms." What impressed RH most "was its ability to add weight and extension, and to expand the soundstage without ever calling attention to itself." (Vol.20 No.8)

REL Q100E: \$995

"Why mince words?" asked MF. "The REL Q100E produces the best bass I've ever had in my living-room home theater.... The sub never intruded on the musical purity and clarity.... The Q100E simply adds the bottom octaves, which, for most material, translates into a greater sense of space and ambient richness rather than bass 'notes' per se. There isn't really much musical information that low, but when it is present in a recording, the REL delivers it stealthily." (SGHT:4 No.6)

C

Hsu Research TN1225HO: \$350

MF said, "While the Hsu is impressive at providing deep, room-shaking bass at a reasonable price, it doesn't perform miracles. Even with the crossover set to 40Hz—the lowest setting—I was able to identify the sub's location with greater ease than with any of the other subs I've had in the room.... For this reason, I

think the Hsu is better suited as a 'last two octaves' subwoofer coupled with...speakers extending down to 40Hz or so." Active crossover costs \$225. (SGHT:4 No.5)

Mirage BPS-400: \$1300

Active (400W) side-firing, bipolar, sealed-box subwoofer employing two 12" drivers. "Given an emphasis on home theater," RD said, "I'd say the trade-offs made in the BPS-400 are just about right. It goes very low and is able to produce bass at the sort of level that can be felt as well as heard. For the reproduction of music, its performance is in a different league from the boomboxes that are often sold as 'home theater' subwoofers, though ultimately it falls short of the ideal in speed and tightness." Although it contains a "basic" low-pass crossover, "the onboard LFX-1 crossover [\$250] adds flexibility and potentially more linear response." (SGHT:3 No.1)

NHT SW3P: \$1350

Unusual two-part active affair—comprising front-firing sealed-box enclosure employing a single 12" driver and a separate 250W amplifier/crossover—which impressed RD with its finesse and ability to handle musical transients. Other subwoofers were better at the explosions so beloved in home theater, he suggested. "Particularly recommended to those who place a high priority on the accuracy of musical reproduction." (SGHT:3 No.1)

PSB Alpha SubSonic 1: \$439

Remarkably compact powered subwoofer that, despite what its name might suggest, offers respectable bass performance down to about 40Hz—which, JA pointed out, is "approximately the frequency of the lowest note of the four-string Fender or double-bass." (SGHT:3 No.3)

Deletions

Velodyne F1800R II discontinued.

Complete Audio Systems

A

Meridian Digital Theatre: \$14,775–\$66,430 depending on options ☆

The first—and still only—all-digital surround-sound playback system, with each "intelligent loudspeaker" fed by an S/PDIF digital signal. All functions are controlled by the remote control. Extremely versatile, but difficult to use; controlling the system is somewhat counterintuitive—"hard to learn; easy to screw up," sez SS—and JGH found the preliminary manual a mess. Nevertheless, JGH deems the Digital Theatre one of the most gorgeous-sounding systems he's ever heard: "Smooth, rich, gutsy, warm, detailed, effortless, and as liquidly transparent as a drop of dew." Bass is robust and well controlled but varies widely in balance dependent on source material. However, both JGH and SS feel that the system imprints everything with a soft, sweet high-end characteristic, rendering it too euphonically colored to be called honest. TJN concurs that the system softens recorded material: "Sweet, yes. Dull, no." "High Class B," ultimately decided both JGH and TJN about the system reviewed—Meridian 565 digital surround-sound processor (\$3895), DSP6000 digital active L/R speakers (\$16,995/pair), DSP5000C digital active center speaker (\$2995), DSP5000 digital active surround speakers (\$5795/pair)—due to its softened top end and somewhat colored center speaker. JA's auditioning of the system with the DSP6000C digital active center speaker (\$8795 each) substituted for the '5000C suggests that Class A would then be an appropriate rating. Those who need more inputs can add the Meridian 562V/517 audio/video control center (\$2195 with a 517 DAC module). (Vol.18 No.6)

MIT/Avalon/Spectral/ASC "2C3D Hologram" system: around \$47,000 as supplied for review (not including source components)

Ambitious and complex system designed as a single entity. Included are a Spectral DMC-20 preamp (see "Preamplifiers"), Spectral DMA-180 power amplifier (see "Amplifiers"), Avalon Radia HC speakers (see "Loudspeakers"), and a complete set of MIT cables and AC conditioning products. Spectral digital source components complete the picture. RH nearly ran out of superlatives in describing all of the system's felicities, which include "a gigantic three-dimensional soundstage," "stunning spatial presentation," and "an uncanny ability to present...instruments with a coherent and totally natural harmonic structure." WP, TJN, and JA made the pilgrimage to RH's during the audition period, and also adjudge it a total corker. "Expert setup and tuning the room's acoustic [with ASC Tube Traps] are essential," RH cautions. (Vol.19 No.1)

Deletions

Cello Music & Film System not auditioned in a long time.

Headphones & Headphone Accessories

A

Cary Audio Design CAD-300SEI: \$3995 ☆

Stereo, single-ended, tubed, integrated amplifier related to the Cary 300SE monoblock; includes a headphone output socket. RH regards the ultrasoft, liquid sound of the 300SEI to be world-class, manifesting a warmth and beauty unmatched by any electronics he's had in his system. See "Amplifiers." (Vol.18 No.9)

Grado Reference Series One: \$695

WP found the RS One headphones clean, warm, and dynamic—capable, he claimed, "of portraying music as an *active* art form." Yet he had qualms about their low-level resolution, dark tonal character, and ability to recreate spatial and ambient information, especially in light of their price. JE disagreed, declaring, "I just love these headphones." RJR cites their tonal darkness but thinks them reference quality, if not high value. SS says that for reference monitoring, they're "too *bel canto* for accurate decision making." ST: "They impart richness, body, and sweetness, particularly to strings." They need power, he cautioned—they "can sound sluggish and lacking in detail" when driven by low-output headphone circuits. Grado's Reference Series Two cans (\$495) are very close in sound quality to the RS1s, ST said. "It's the full-bodied sound—especially the luscious, rich, resonant bass—that makes the Grado 'phones special.'" (Vol.19 No.7, Vol.20 No.1, Vol.21 No.2)

HeadRoom Max headphone amplifier: \$1333

Designed to take advantage of new surface-mount parts, Max is the finest headphone amp yet from HeadRoom, WP maintains. While he found it fast, transparent, articulate, and unusually capable of exploiting the frequency extremes, he praised above all its "coherent articulation of the essence of music.... With this amplifier and a state-of-the-art headphone such as the Sennheiser HD 600, dynamic headphone technology has come of age," and "Electrostats no longer outperform their competition." Same circuit, employing a different volume control, is available in simpler chassis as the Maxed-Out Home HeadRoom for \$999. (Vol.20 Nos.2 & 12, Vol.21 No.2)

McCormack Micro Integrated Drive: \$795

Primarily designed as a headphone amplifier, but also can be used as a line-level pre or 5Wpc integrated. "Fast and tight and as detailed as can be," enthused WP. "No \$700 preamp has any business sounding this transparent." "One of the great bargains in high-end hi-fi," added ST. "As a line-stage preamp, the MID compares to some of the best... preamps selling for \$2000 or so." (Vol.19 No.7, Vol.21 No.2)

Melos SHA-Gold: \$1995

This headphone amp/preamp really got WP's juices

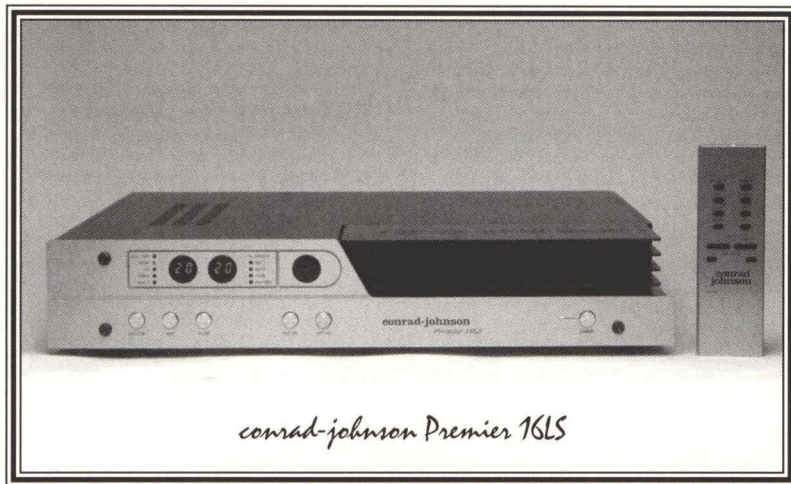
Edge of the Art

The New Art Form by conrad-johnson

The Premier 16LS

.....

conrad-johnson amazed
the audio world with their
Anniversary Reference Triode
(ART) pre-amplifier. Widely
regarded as the finest tube
pre-amp ever designed,
the ART (\$14,995) has



conrad-johnson Premier 16LS

become the tube pre-amp to beat. It came as no surprise to us that the closest thing to it is c-j's all new
Premier 16LS (\$7,995).

The 'essence' of the ART has been captured in the Premier 16LS. Featuring parts and build quality that is identical to the ART, the Premier 16LS is a single chassis design with all control functions available via remote control. Soundstaging is wide, deep and dimensional. The tonal quality and harmonic structure of each instrument is beautifully reproduced. Dynamic range and low level resolution gives the Premier 16LS an open and effortless sound that pulls the listener into the performance.

*The conrad-johnson Premier 16LS offers breathtaking performance
and superb value. Experience it now at Overture.*



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flowing. "As a headphone amp, I've never heard its equal," he gushed. Remote volume control via Photometer circuit, as well as passive, active, and active-balanced outputs, add to flexibility. "If you've got the gelt, go for the SHA-Gold!" he shilled. See "Pre-amplifiers." (Vol.19 No.7)

Sennheiser HD 600: \$449.95

WP, KR, and ST are unanimous in calling these the best dynamic headphones they've ever heard. "The only ones with which I have ever been physically or sonically comfortable," says KR. "Sennheiser has kept all of the qualities that made the HD 580 among the best of its breed, and in several areas has even managed to better it impressively," according to WP. Sez ST, "The magic of the HD 600s is their midrange—a purity of tone, especially when driven by tubes, that is quite special." (Vol.21 No.2)

Stax Lambda Nova: \$799.95–\$1699.95

The latest iteration of electrostatic Lambda headsets is faster, more vivid, and less colored than the Lambda Signature, which preceded it. Gets very close to the much more costly (and currently unavailable) Stax Omega. Signature S includes tube energizer/amp module capable of switching between two inputs. Signature W has passive preamp/tube energizer-amp module that accepts three inputs. Classic costs \$799.95; Basic, \$499.95; Signature S, \$1499.95; Signature W, \$1699.95. (Vol.20 No.6, Vol.21 No.2)

B

Etymotic Research ER-4S: \$330 ☆

Placed directly in the ear canal, these unusual "ear-phones" impressed WP with their 24dB ambient noise isolation and their fast, accurate, transparent response. While he finds the Sennheiser HD-580s more comfortable for long-term in-home use, he uses the ER-4Ses for travel—and recommends them enthusiastically for any application where environmental noise interferes with quality listening. He notes that people with an aversion to placing foreign objects in their ears will find them anathema. (Vol.18 No.7)

HeadRoom Supreme portable headphone amplifier: \$449 \$\$\$ ☆

Small, beautifully made, battery-powered solid-state amplifier based on a proprietary surface-mount module and featuring switchable intrachannel cross-feeding and time delay to render headphone listening to stereo programs less artificial-sounding. The effect of this is surprisingly subtle in A/B comparisons, but proves much less fatiguing in long-term listening sessions. Includes a treble-boost switch. Drives dynamic headphones to high levels with authority and excellent clarity, without this being associated with any brightness. JA bought a Supreme to drive his Sennheiser HD 580s, with which it makes a very musical-sounding combination. JA's auditioning of the \$599 Cosmic version suggests that it is, indeed, cosmic. (Vol.17 Nos.1 & 2, Vol.19 No.7, Vol.21 No.2; see also WP's review of the \$129 HeadRoom Traveler Bag in Vol.18 No.10.)

Home HeadRoom headphone amplifier: \$599 ☆ This AC-powered sibling of the portable HeadRoom amplifiers impressed WP no end. "Performs on an unusually elevated level," he concluded, agreeing with other *Stereophile* writers that the HeadRoom crossfeed process, while subtle in its effect, significantly reduces listener fatigue. SS also finds the Home HeadRoom, driving Sennheiser '580s, to be the ideal location recording monitor. (Vol.18 No.1)

Melos SHA-1 headphone amplifier: \$1095 ☆ Three line-level inputs and two low-impedance headphone outputs. Combines tube (Sovtek 6922) voltage gain stage with FET-follower outputs. Gets the most from good dynamic cans, such as the Sennheisers and Grados, with iron-fisted bass control and superb transparency. See "Pre-amplifiers." (Vol.15 No.10, Vol.19 No.7)

Musical Fidelity X-CANS headphone amplifier: \$249.95

"The midrange and treble are glorious: delicate, detailed, liquid," said ST. Better with headphones that have controlled bass response, such as the Sennheiser

HD 600. WP felt it had limitations in bass extension and lacked some top-end sparkle compared to more expensive units. "Low Class B," he summed up. X-PSU power-supply upgrade available for \$199.95 (if purchased together, combined cost is \$399.90); Sam recommends it. (Vol.21 No.2)

Sennheiser HD 580: \$349 \$\$\$ ☆

Ultra-smooth, ultra-detailed open-back dynamic headphones with full, extended low frequencies. AG found the HD 580s to be "too civilized," but WP comments that some audiophiles miss the grain and other "hi-fi" signifiers that the Sennheisers simply do not exhibit. Comfortable. JA's dynamic headphone reference till he heard the Sennheiser '600. (Vol.17 No.12; also see "Industry Update," Vol.17 No.1, p.41; TJN's headphone review in Vol.17 No.2, p.114; and SS's review of the Sennheiser IS 850 headphones in Vol.18 No.10.)

C

Creek OBH-11 headphone amplifier: \$199

"Dynamic, detailed, smooth, controlled in the bass, and extended in the treble without being overbright," said ST. "The OBH-2 power supply (\$100) makes it sound even faster, clearer, and more dynamic." (Vol.21 No.2)

Grado SR60: \$69 \$\$\$ ☆

The SR60 offers a rather dark-toned balance, with a full bass and excellent resolution of detail. A more forward midrange, however. Uncomfortable. The \$150 SR125—now yet reviewed—is a JA favorite. (Vol.17 Nos.6 & 10)

D

There are currently no Class D headphones listed.

K

Grado SR125.

FM Tuners

A

Accuphase T-109: \$2995 ☆

With similarly excellent soundstaging but more midrange presence, warmth, and palpability than the Fanfare and Magnum Dynalab tuners—"on the full-bodied side of neutral"—the Accuphase noses its way into Class A, decided SS, adding that it was the finest tuner he's heard. Superb clarity. (Vol.17 No.11)

Audiolab 8000T: \$1195 \$\$\$ ☆

Excels in ergonomics, RF sensitivity and selectivity, and its hash-free audio signal. Excellent sound quality, if not quite matching the low-bass reach of the Day-Sequerra. "I know of no other tuner that has the quality and performance of the Audiolab," says LG. Very sensitive AM section. (Vol.17 Nos.5 & 11)

Day-Sequerra FM Reference Classic: \$5500 ☆

Using a closed-circuit comparison setup in which the sound from CD could be compared with its sound via the tuner under test, LG found this superbly made tuner to be the most neutral he's heard, offering a musically satisfying sound with a highly defined bass response and a "total absence of white FM haze." RF performance was also excellent, if not quite matching the Rotel RHT-10's. The FM Reference pulled in more FM stations with acceptable or better sound quality than any other tuner LG had tried. His verdict? "Redefines the state of the art in FM tuners" with respect to its tuning ability, FM signal display, and sound quality. DAS has doubts about the tuner's four-gang front-end performance in areas of very high signal strength, however. \$940 upgrade to "Reference Classic" status involves replacement of numerous parts. "Overall," LG said, "the Day-Sequerra Classic upgrade yielded a much brighter 'scope trace, much increased signal sensitivity...Best of all, [it] doesn't affect the tuner's audio section, which remains one of the finest-sounding available." (Vol.14 No.12, Vol.21 No.1)

Fanfare FT-1: \$1395 ☆

SS raved about this remote-control tuner's transparent sound quality, RF performance, and ergonomics, concluding that it was the equal of his long-term reference tuner, the Magnum Etude, with strong-signal stations, and sounding less hashy on stations with poor signal strength. Class A, agrees LG. (Vol.17 No.6)

Linn Kremlin: \$4400

This wide-band tuner, like many British designs, features poor selectivity and sufficient (but not overwhelming) sensitivity—a problem in RF-saturated urban areas, observes DAS. Paired with a top-notch, highly directional outdoor antenna feeding it "clean" RF, DAS adjudges it "highly recommended." (Vol.19 No.3)

Magnum Dynalab MD 108: \$5500

"Gets [radio stations] even after they've signed off," marveled DAS. Tuner offers balanced mode, the sound of which, he thought, "did justice to the finest FM stations. In unbalanced mode, the audio quality had less refinement but was still very good." 1.5dB capture ratio is "adequate for all but the most stubborn cases," although sensitivity in Super-Narrow bandwidth position was lower than spec. *Stereophile's* "Analog Source of 1997." (Vol.20 No.5)

B

Meridian 504: \$1295 \$\$\$ ☆

Unusual clarity and wide, deep soundstaging, decided LG, coupled with an excellent sense of musical pace, an uncolored midrange, and deep, powerful low frequencies. No selectable IF bandwidths, however, and neither high-blend nor muting can be switched off. Meridian system remote costs \$99. (Vol.17 No.10)

Thorens TRT-2000: \$1300

DAS praised this tuner's low distortion and relaxed, natural sound, even though he found it "slightly milked of ultimate detail." However, he warned, it "is not a highly selective tuner; it's best suited for sparse RF environments...Herein lies my very limited recommendation of the TRT-2000: that it be considered in an all-Thorens system, or by the purchaser who wants reasonably good AM and FM, with the advantages of RDS and good looks." Remote adds \$99. (Vol.20 No.11)

C

Onkyo T-4310R RDS: \$279.95 \$\$\$ ☆

Features RDS (Radio-broadcast Data System), which displays station format, call letters, emergency information, or any 64-character-length message a station desires. "Onkyo has a winner—almost," DAS equivocated. Clean-sounding AM and superior performance specs for mono FM—stereo was a different matter, he reported. A good choice for the FM listener far removed from strong signal stations, but not optimal for those who favor a few high-quality stereo stations over a greater number of mono ones. (Vol.18 No.10)

Parasound T/DQ-1600: \$385 \$\$\$

"Presents a good balance of RF and audio factors," DAS maintained. "Tonal balance was neither overly crisp nor boomy and reflected what was being broadcast." The tuner had excellent stereo separation and phase integrity, he found, with very good S/N ratio with medium-strength or stronger signals—weaker signals highlighted its lack of noise-reduction and high-blend circuitry. (Vol.19 No.12)

D

Arcam Alpha 7: \$449 ☆

Alternate-channel selectivity not good, nor is adjacent-channel selectivity, while SCA-subcarriers will degrade the audio somewhat. But for those who live in cities and suburbs where there aren't too many stations crowded together on the dial, and for those who want reasonably clean sound quality from stereo signals at a low price, the Arcam AM/FM tuner is a good value. Actual model reviewed was the electrically identical but cosmetically different Alpha 5. (Vol.17 No.12)

Edge of the Art

Aerial Supremacy

.....

Aerial is recognized as the leader in dynamic Home Theater speakers. The new **SW12 Powered Subwoofer** (\$3,595) exceeds all expectations. It produces the deepest, most controlled and dynamic bass we've ever heard, and it's compact. Included are a 400 watt, very low distortion amp, infrared remote control, and a specially designed parametric EQ. Unique to the SW12, you can control the woofer's damping to precisely adjust the sound for tightness, speed or slam to blend with any speaker system, including panel speakers. It's tonally matched to all Aerial speakers and can be used singly, in pairs or in greater multiples depending on desired effect. The flexibility and performance of this subwoofer are unmatched.



The **Aerial Acoustics 7B** (\$3,800pr) is a remarkable 3-way column loudspeaker. Using advanced technology combined with precise handcrafted methods to achieve incredible imaging and accuracy, these new Aerial's have redefined what can be done in their price category. It's not magic, just extremely fine execution using their exclusive drivers, unusually dense 2" thick walls and innovative cabinet engineering for proper acoustics. The 7B delivers accurate tonal balance, pinpoint soundstaging, excellent transparency, a very deep bass and the power to properly render an orchestra or full Hollywood action feature. When combined with Aerial's CC-3 Center Channel Speaker, SR-3 Rear Channel Speakers, and the SW-12 Subwoofer this is the system to beat.

.....

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Deletions

Rotel RHT-10 and RT-990BX discontinued; Magnum Dynalab Etude and FT-101A not auditioned in too long a time to be sure of rating.

FM Antennae

Antenna Performance Specialties Sniper: \$595**Antenna Performance Specialties APS-13 FM: \$225**

The Sniper is a huge (330"), custom-order, outdoor antenna with 12dB true forward gain at all FM frequencies and extremely low SWR (Standing Wave Ratio). Requires rugged ham-radio-antenna-type installation, which may eliminate its consideration by all but the most dedicated radio listeners. Yet DAS feels it sets the standard for antenna performance. The APS-13 (originally called QFM-12) is still large (200") but manageable, he reports, offering 10dB gain and only slightly less performance than the Sniper. (Vol.19 No.3)

Fanfare FM-2G: \$85

"\$85 spent on the FM-2G will make more improvement in your FM reception than \$1000 spent on a new tuner coupled to an interior dipole," said SS of this whip antenna. "This is an 'accessory' that is truly a necessity." (Vol.20 No.12)

Editor's Note: No indoor antenna can compete with a good roof or mast-mounted outdoor antenna, but because apartment dwellers often don't have a choice, we list the following indoor models.

AudioPrism 8500: \$499 ☆

63"-tall, remote-controllable, vertical phased-array passive FM antenna for indoor use, offering a more directional pickup than the less expensive 7500. (Also offers an omnidirectional pattern.) Will prove optimal for those who desire to receive relatively weak stations competing with stronger stations on similar frequencies broadcast from other directions. (Vol.14 No.6)

AudioPrism 7500: \$299 ☆

Low-VSWR (Voltage Standing Wave Ratio), vertically polarized, omnidirectional indoor passive design that will prove optimal in urban, high-signal-strength areas. 89" high. (Vol.12 No.5)

AudioPrism 6500: \$125 (wood cabinet) ☆

If you don't have the room for an external antenna, then the diminutive 6500 could be a good substitute, offering good reception except for DX-ing purposes. A lot more effective than the small, active, omnidirectional antennae offered by some companies, thought BS. Vinyl-covered version costs \$99. (Vol.13 No.9)

Magnum Dynalab 205 FM Booster: \$295 ☆

Excellent RF amplifier to optimize selectivity and reception in areas of poor signal strength. (Vol.10 No.6)

RadioShack amplified indoor FM antenna: \$29.99 \$\$\$

While it's no substitute for a multiple-element outdoor-mounted Yagi, DAS observed that this unit "added no detectable noise or distortion to the signal, and provided better-than-expected FM reception; far better than typical rabbit ears or flimsy wire antennas." (Vol.19 No.11)

K

Day-Sequerra Stealth.

Signal Processors

A

Accuphase DG-28 Digital Voicing**Equalizer: \$8200**

SS called this digital equalizer "a great EQ device. It's easily the best I've heard for source-material correc-

tions. If you spend most of your time listening to long-dead artists captured on less than ideal recordings, you'll simply adore this equalizer. It ain't too shabby on room corrections either." But, he cautioned, "For audiophiles who use primarily analog source material and demand Class A sound, the optional input cards may not be the way to go." (Vol.21 No.6)

Z-Systems rdp-1 digital preamplifier: \$5000

A digital preamp, but, as KR points out, "a flexible and friendly parametric equalizer" as well. "The best way to correct tonal imbalance in speakers and source material. The tone control for the digital age." However, he cautioned, it is not a universal Band-Aid. "While the rdp-1 can modify the amplitude response of [a] speaker, it cannot correct phase interactions between drivers, nor can it change the radiation pattern of [a] speaker." But used judiciously, "it is a valuable tool." (Vol.21 No.7)

B

Rocktron Circle Surround 5.2.5 surround-sound decoder: \$995

"Just as Dolby Pro-Logic is being superseded by the digital audio formats, Circle Surround has come along with what is probably as good a matrix decoder as we will ever see," said JGH. "Circle Surround delivers dramatic improvements in realism from music sources, plus movie surround performance that's almost as good as it gets." (Vol.21 No.8)

Recording Equipment

Editor's Note: We have included only products of which we have direct experience. Anyone about to undertake serious recording should ignore all "amateur" microphones; as a rule of thumb, you should spend as much, or more, on a good pair of mikes as you do on your recorder.

A

Brüel & Kjaer 4006: \$2060 ☆

Omnidirectional, 48V phantom-powered, 1/2" capacitor microphone with high dynamic range, extended bass response, and a basically flat response marred only by a small peak in the top audio octave and a rather depressed lower treble. Comes with both diffuse-field and free-field grids. A "nose-cone" is available to give true omnidirectional response and a spherical acoustic equalizer to give a more directional response. A calibrated sample is used by *Stereophile* to measure loudspeaker responses. (NR, but see Follow-Up in Vol.14 No.10, and audition *Stereophile's Concert* CD and track 5, index 7 on the first *Stereophile* test CD.)

Brüel & Kjaer 4011: \$2060

JA finds this uncolored 1/2" mike—cardioid cousin of the 4006—to give solidly defined, vivid stereo imaging when used in an ORTF configuration, which is what he used to record *Stereophile's Festival, Serenade*, and *Encore* CDs, reinforced by a spaced pair of B&K 4006s. (NR, but see Vol.19 No.1)

dCS 902D A/D converter: \$7500

Data output is switchable between 24 bits and a noise-shaped 16 bits, but measured resolution is closer to 20 bits, JA found. This is still astonishingly good, however, and the dCS (now offering 96kHz sampling) is his recording reference. JA agrees with SS that the dCS is balanced on the mellow side rather than up front; this, he feels, is optimal for live classical recording given the unit's superb transparency and retrieval of the full detail of live sound. (NR, but see "The Rhapsody Project," Vol.20 No.6)

Manley Reference A/D converter: \$7000 ☆

After using this solid-state, UltraAnalog-based, two-channel 20-bit converter to master *Stereophile's Intermezzo, Concert*, and second test CDs, JA felt it to be one of the best-sounding around. One of the winners

in the October 1991 AES Sound-Off. Offers DC trim controls, balanced and unbalanced analog inputs, and AES/EBU and S/PDIF data outputs. Analog peak meters with "0" set to -12dBFS are an anachronism, however; you're better off using a Dorrough or Sony AES/EBU meter or the LED or LCD peak meters on the DAT recorder (or whatever you use to store the data) to avoid running out of bits on peaks. (NR)

Millennia Media HV-3B stereo microphone preamplifier: \$1895

JA used HV-3B preamps for *Stereophile's* 1997 *Rhapsody* release and was extremely impressed by this solid-state design's combination of transparency and very low noise, quieter even than the Millennia. He subsequently bought one for future recordings. "High Voltage" option for B&K mikes adds \$400; High Resolution Gain switches add \$150 per switch. (NR)

Millennia Media M-2a stereo microphone preamplifier: \$2895

The M-2A (originally called the Forsell) is a transformerless dual-mono tube design that JA finds to be among the quietest, most transparent preamps he has tried. JA bought a sample to make *Stereophile's* 1996 *Serenade* recording. The combination of the M-2a with B&K 4006 omnis gives a sound with tremendous low-frequency weight and impact. (NR)

Nagra-D: \$25,750

The ultimate one-box digital recorder: To see it is to want to touch it is to want to buy it, says JA. (We bought it!) The superbly built Nagra uses open-reel tape to store two or four channels of up to 24-bit data. (One 5" reel of Ampex 467 holds one hour of four-channel data or two hours of two-channel data.) Four channels of both analog and digital (AES/EBU) I/O. Built-in A/D converters offer 20-bit resolution. Built-in mike preamps offer phantom power, enormous headroom, and are superbly quiet. Sophisticated built-in software offers versatile usage options; optional DOS program allows a directory to be created for each tape, to access individual takes, overload points, examine error rates, etc. Nagra can even diagnose your machine over the phone, using its built-in RS422 port. Recording *Festival* with the Nagra—coupled with the editing process—made JA a big fan. "Operationally, the unit was a dream," he enthused, adding emphatically that it was the finest audio recorder he has ever used. Portable, practical, and capable of producing tapes of the highest quality. Highly recommended. Latest version can record at 96kHz sample rate but at the expense of losing two channels. (Vol.19 No.1)

B

Audio Engineering Associates 380TX stereo microphone preamplifier: \$2185

JGH's reference mike preamp, the 380TX is very quiet, super-portable, and features M/S matrixing circuitry to adjust soundstage width and depth in real time. (NR)

Pioneer Elite PDR-99 CD-R recorder: \$2000

Affordable CD-R machine is compromised by SCMS and expensive (\$15/disc) "consumer" media that are only 60 minutes long—as opposed to the 74-minute "professional" discs currently selling for \$5 each. SS found it easy to use, and capable of 16-bit recordings as good as—or better than—his digital originals. Recordings made from analog sources suffered from some loss of low-level detail, due, SS surmised, to the inadequate onboard A/D converter. (Vol.19 Nos.1 & No.4)

Sony TCD-D8 DAT recorder: \$899 with case

Tiny portable machine that makes excellent location recordings, provided you use an external A/D converter. Short internal battery life is a problem. A company called Eco-Charge (P.O. Box 956, Boulder, CO 80306) makes an external lead-acid battery pack (\$119.95) that SS highly recommends. The TCD-D8 is the replacement for the similar TCD-D7 and now includes 44.1kHz digital input/output and AC adaptor. A JA favorite. (Vol.18 Nos.1 & 6, TCD-D7; Vol.19 No.10, TCD-D8)

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Classé redefines how much high-end performance you can get in music and home theater componentry at prices that make them one among the industry's best values.

The SSP-50 Surround Sound Processor/Preamplifier (\$6,500)

provides remarkable reproduction of your favorite music and soundtracks. The SSP-50 includes ultra high-performance Dolby Digital, DTS, and Dolby Pro Logic surround processing. Sharing the same design philosophy and critical converters already proven in Classé's extraordinary digital music components, the SSP-50 renders extraordinary multi-channel transparency and resolution as it raises performance levels for anyone's home theater system.

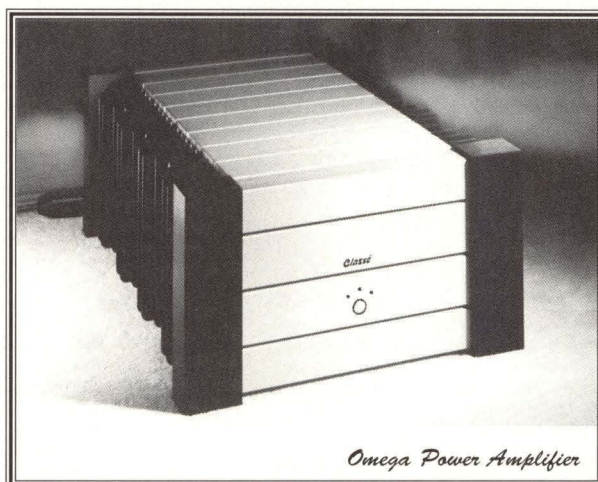
The SSP-25 Surround Sound Processor/Preamplifier (\$3,000)

with Dolby Digital and DTS, gives you much of the quality and sonic realism of the SSP-50 at a lower price. Both have a full set of audio/video connections, and can run your entire home with full multi-source/multi-zone remote control capability.

The **Omega** (\$15,000) is an all out assault on edge of the art high-powered, high-end audio amplifier design. One of the most musical and powerful amps ever created, the Omega is a reference quality, dual monaural amp, with two massive toroidal transformers and separate AC power cords for each channel. Its huge capacity produces 1600 watts per channel into a 2 ohm load. Its low noise floor, incredible soundstaging, detail and control make the Omega a world-class product. And for ultimate home theater, *nothing* beats the Omega as a power source. If you're considering an amplifier over \$10,000, you must hear the Omega.



SSP-50 Surround Sound Processor/Preamplifier



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Sony SBM-1 A/D processor: \$549

This outboard Super Bit Mapping A/D converter is intended to be used with Sony's TCD-D3, D7, and D8 portable DAT recorders and, reports SS, addresses and solves most of their shortcomings. "98% of the sound of the DTC-2000ES at 25% of the price," he enthuses. Reliable, extremely portable, and good-sounding, its only tradeoff is a loss of ergonomic functionality dictated by its small size. (Vol.18 No.6)

C

AKG BlueLine microphones: \$554-\$934

Super-compact capacitor microphones that use a common SE300B powering module (\$326) with interchangeable twist-click capsules (\$228-\$608). "Extraordinarily clean, well-balanced sound at ridiculously low prices," notes JGH. (NR)

Philips CDR880 CD-R/CD-RW recorder: \$649

WP was surprised to note that this consumer CDR (which records only on the more expensive consumer-grade blanks) made copies that sounded somewhat different from the originals. However, "its faults are quite minor," he said. "The 880 is relatively affordable and it couldn't be simpler to use. And it has one feature nobody can quibble about—it's a hell of a lot of fun to make your own CDs." (Vol.21 No.9)

D

Sony WM-D6C Pro Walkman cassette deck: \$400 ☆

A pocket-sized stereo recording system of surprising quality and versatility. Alvin Gold feels that to spend more on a cassette deck would be a waste of money. Less expensive WM-D3 (\$270) is half the size but keeps most of the quality. Higher wow and flutter, however. (Vol.7 No.6, Vol.10 No.6)

K

Apogee, dCS 904, and PrismSound 20-24-bit A/D converters, Dorrrough AES/EBU peak/average level meter, Bryston BMP-2 microphone preamplifier, Schoeps Colette microphones, EAR 824M stereo microphone preamplifier, PrismSound MR-2024T "bit splitter" for MDM recorders, Tascam DA-38 MDM, Shure SM-81 cardioid microphone.

Deletions

Sony DTC-2000ES SBM DAT recorder replaced by new models not yet auditioned.

Test Equipment

AudioControl Industrial SA-3051**Spectrum Analyzer: \$995 ☆**

Portable (battery-powered) and inexpensive 1/3-octave analyzer with pink-noise source, ANSI Class II filters, accurate calibrated microphone, and six nonvolatile memories. Parallel port can be used with any Centronics-compatible printer to print out real-time response. Factory update increases maximum spl capability, and resolution to 0.1dB. (Vol.11 No.6, Vol.12 No.3)

George Kaye Audio Labs Small-Signal Tube Checker: \$549 ☆

The essential companion for the dedicated tubeophile, this well-made device tests voltage gain, noise, and microphony with the small-signal tube used in typical preamp circuits. Tests both 6.3V and 12V types. As well as a meter, a headphone jack allows users to hear what's right and wrong with their favorite tubes, and to look at the output and the distortion+noise waveform with an oscilloscope. (Vol.17 No.6)

Gold Line DSP 30 Spectrum Analyzer: \$1579 ☆

Portable (battery-powered) 1/3-octave analyzer with higher dynamic range and better signal resolution than

the ubiquitous AudioControl (one software option gives 60 bands between 27Hz and 800Hz). Features six memories and a variety of post-processing options; can also be controlled by an external PC through its RS-232 port. Latest software includes a Windows-based interface and a number of other refinements. (NR)

Miscellaneous Accessories

Audio Advisor Elfix AC polarity tester:**\$29.95 ☆**

Components tend to give the best sound with the lowest potential between their chassis and signal ground. JGH found using the Elfix to be an easy, noncontact method of optimizing this aspect of performance, in conjunction with AC "cheater" plugs. (Vol.15 No.6)

AudioQuest binding-post wrench: \$7.95

A great idea improved—similar to the Postman, but with a metal sleeve reinforcing the sockets. (Vol.20 No.9)

AudioQuest RF stopper: \$39/8 (Jr.), \$60/4 (Sr.)**TDK NF-C09 digital noise absorber:****\$14.95/pair ☆**

ST found these ferrite rings to improve the sound from CD when clamped over the interconnects between player and preamp. He also found the sound improved—less grit—when a ring was clamped over the coaxial data lead between transport and processor, though we would have thought that this would increase jitter. Best used with AC power cords, JA feels. Equivalents can also be obtained from RadioShack. (Vol.14 No.1, TDK)

Bluenote Midas Series Hi-end**Tube Dampers: \$89/pair**

Italian devices lower tube microphonics, JS discovered, resulting in tighter focus, integration, and bass. While they enhance transparency, he worried that they might subtly dampen "bloom." Even so, "I consider them an indispensable accessory," our valiant audionaut maintained. (Vol.19 Nos.2 & 4)

Densen DeMagic CD: \$29.95

This three-minute CD "sends a hideous, pounding, almost chainsaw-like demagnetizing tone through your system... as it cleans magnetic-induced distortion from hi-fi," ST claimed. "I won't describe the improvement as dramatic—it's subtle, but definitely worthwhile." But leave the room when you play it or risk notching your hearing for an hour. (Vol.20 No.12)

Deoxit/Preservit contact conditioner:**\$29.95 ☆**

The right stuff for cleaning up dirty and/or oxidized plugs and contacts. Available from Old Colony Sound Lab. Toll-free tel: (888) 924-9465. (Vol.10 No.6)

Dynaclear Postman binding-post wrench: \$7.95

The ideal way of tightening five-way binding-post connections without overtorquing. The reviewer's friend. (Vol.17 No.11)

Kontak: \$50 ☆

Far and away the best contact cleaner CG has used. "The gains in transparency and purity are startling," gusheth he. Now available in the US from The Sound Organisation. (NR, but see "Industry Update," Vol.15 No.5, and "Manufacturers' Comments," Vol.15 No.9.)

Mondial MAGIC video ground isolator: \$99 ☆

Provides effective antenna and cable-feed isolation for those whose video systems have hum problems. A splitter version is available for \$149. (Vol.15 No.2)

Music Sciences O2 Blocker: \$69.95/4-oz bottle,**\$9.95/6 foam pads; \$49.95/36 treated plastic bags**

These products are "designed as a total solution that thoroughly cleans all parts of a system and improves conductivity while providing ongoing corrosion protection," observed SD. The key ingredient is a proprietary blend of vapor corrosion inhibitors (VCI). SD was initially dubious as to claims of enhanced sound quality, but was convinced that it inhibited corrosive decay over time. (Vol.20 No.2)

PEARL LW tube coolers: \$6-\$25 depending on size ☆

Finned metal heatsink available in a number of sizes to cool both small-signal and power tubes. JA recommends them for use with the Melos SHA-1. (Vol.16 No.5)

Shakti electromagnetic stabilizer: \$230

Passive component containing passive circuits intended to absorb and dissipate the EMF generated by active audio gear. JS and WP found them effective to varying degrees, depending on the components they were used with. JS discovered that "focus, transparency, clarity, and speed were better, as was the sense of pace." RD found that the Sonic Frontiers SFD-2 Mk.II sounded better—less upper-midrange grain—with the Shakti placed on the chassis above the transformer. WP uses them on his power amps, but cautions that using too many in a system will close it down and make it sound dull. (Vol.19 Nos.2 & 4; see also "Industry Update" in Vol.21 No.4.)

Shun Mook Mpingo Disc: \$50 each ☆**Shun Mook Spatial Control Kit: \$450 ☆****Shun Mook Spatial Control Quartet/Sextet:****\$2280/4 stands and 32 Mpingo discs,****\$3220/6 stands and 44 discs ☆**

The Mpingo Disc is an ebony disc just over 1.5" in diameter and 0.5" thick. Three Discs bonded to a wooden L-bracket make up the Spatial Control Kit, which can be used to "tune" a system's imaging. Read JS's review carefully to get the full scoop on how to use the discs, but JS is convinced that they effect a major improvement in the sound. "Yup, they work," agreed ST; "they make my \$78 AR turntable sound like JA's Linn!" ("Ssh-yeah, right," pouts JA.) Though he's not sure why the Shun Mook Discs have any effect, ST does point out that they can make the sound *worse* if not used correctly. "Try one or three. Never, never two." (Vol.17 Nos.2 & 12)

Versalab Red Rollers, Flat Rollers,**Split Rollers: \$115-\$230/pair**

WP found these RF-blocking components, designed to surround signal-carrying cables, to be effective in canceling hash and harshness caused by radio-frequency contamination of the environment. He did stress, however, that they are most effective if used throughout the system and in conjunction with the other Versalab products. JE and JS demur. SS, located up in the clean air of the Colorado hills, found little benefit. (Vol.19 No.6, Vol.20 No.7)

Versalab Zap!: \$39.95

Simple and elegant solution to uncontrolled static discharge, the Zap! is a grounded brass disc that sits next to your components. WP claimed it "invites your caress, subtly urging you to ground yourself every time you pass by." While home-brew versions would work as well, he found the satin finish seductive. (Vol.20 No.9)

WBT 0101 RCA plugs: \$140/4 ☆

The best, although original steel locking collet, now replaced by brass, gave rise to neurosis. WBT 0144 plugs cost \$80/four. Distributed in the US by Kimber Kable. Both sets now include a complete set of strain-relief ferrules and a length of WBT 4% silver solder, hence the price change. (NR, but see "Industry Update," Vol.12 No.9.)

WireWorld Interconnect Comparator: \$600

RH dubbed this "an invaluable tool for characterizing sonic differences between interconnects," although he pointed out that most audiophiles probably do not need to own one. He recommends that service-savvy dealers or audio clubs might consider acquiring one to loan around. MF would rate it higher if the logistics of the bypass function were less fiddly. (Vol.19 No.8)

XLO TPC (The Perfect Connection) contact treatment: 99 cents/package

Electrical contact treatment that, according to its manufacturer, neutralizes the effects of oxidation. JS treated his system and reported hearing increased transparency, better soundstaging, sweeter highs, deeper and richer bass, and a "quieter and thus more 3-D soundstage." He promulgated that "This 99-cent tweak will do as much

Edge of the Art

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.....

Martin-Logan is recognized for producing the best electrostatic speakers you can buy. Their electrostatic design brings you every sonic element from explosive dynamics to nuance, finesse and realism. With Martin-Logan, if it's in the music or soundtrack, you'll experience it.

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We are happy to announce the premier of the new **Cinema Center Channel Speaker** (\$1,295). It delivers much of the presence of the top-performing Martin-Logan center channel, the Logos, but in a smaller and more

affordable package. There are two woofers, a dome tweeter and the marvelous electrostatic midrange, all fit into a package only 10" high and 7.5" deep. Dialog never sounded as detailed, seamless or real.

You'll marvel at the way the new **Script Electrostatic Rear Channel Speakers** (\$1,495pr) effortlessly transports you beyond time and space into the living, breathing realm of movie ambience. You'll hear pinpoint rear channel effects and dimensional soundfields as only a Martin-Logan can reveal. Only 40" tall and 10" wide, the Scripts mount easily on your wall.



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for your system as spending \$1000 or more on components." One packet is enough to treat one system once. (Vol.20 No.3)

K

Caig ProGold contact enhancer, XLO/Reference Recordings *Test & Burn-in CD*.

Power-Line Accessories

Audio Power Industries Power Wedge Ultra 116 AC-Line Conditioner: \$1499

Featuring RF filtering, three isolation transformers with dual secondaries feeding six AC outlets, and MOVs to absorb voltage spikes on the AC line, the Power Wedge also offers four filtered outlets into which to plug your power amplifier(s). Highly recommended. "Makes the silences *more* silent," says JA of the original version; WP's preliminary auditioning of the new Ultra versions continues the recommendation. Other models are available with fewer outputs—eg, the \$749 Power Wedge Ultra 112. Audio Power's \$649 Ultra Power Enhancer 2 and Power Link AC cords (\$159/6') further enhance the performance of the Power Wedge Ultra, the Ultra Power Enhancer 2 increasing the solidity of the bass. RH recommends that if you can't afford a Wedge 116, Audio Power's Power Pack II (\$229) is an affordable alternative. (Vol.14 No.11, Model 1; Vol.17 No.12, original Models 116 & 112)

AudioPrism LF-1 QuietLine Parallel Powerline Filter: \$125/4'; \$200/8 \$\$\$

"This little wall-wart squelches AC-borne noise right at the outlet, audibly lowering your system's noise floor. One of the most dramatic and cost-effective audio improvements money can buy," according to BW. (NR)

Aural Symphonics Missing Link Cubed V3: \$800/6ft, \$630/4ft

The Missing Link is Aural Symphonics' entry in the no-compromise AC cable sweepstakes. "It's gigantic! It's stiff! And it's (very) bright blue!" exclaims JS. SS notes that this "big mutha" is best suited for power amps and other massive components as they can easily topple featherweight components. As with all high-end wire, only careful auditioning in your own system will determine if its benefits warrant its cost. (NR)

Camelot Technology Sir Bors Reference A.C. power cord: \$349/1.5m

SS finds this AC cable to combine excellent materials and substantial shielding with good flexibility. Seems to perform on a par with other, far stiffer premium AC cables, he concludes. (NR)

Kimber Power Kord: \$188/6ft ☆

ST uses Kimber Kords throughout his system, and noted tremendous differences with a Jadis Defy-7. But try before you buy, he warns. (NR)

Lightspeed CLS6400 ISO line filters: \$535-\$696

With four double-filtered analog and two fully filtered digital AC outlets and an 1800W/15A capacity, the transformerless Lightspeed filter can handle all but the most power-hungry system, says SS. RD likes the fact that, in contrast to some transformer-based power-line conditioners, it doesn't hum, nor does it limit dynamics. SS points out that it appears to be good at solving ground-loop problems. The \$696 CLS6400 ISO 20A H has hospital-grade plugs and outlets with 2400W/20A capacity. (NR)

MIT Z-Center power-line conditioner: \$1495 including Z-Cord ☆

MIT Z-Iso-Duo power-line conditioner: \$1495 including Z-Cord I

MIT Z-Stabilizer Mk.II power-line conditioner: \$995 including MIT Z-Cord I

MIT Z-Cord II AC power cord: \$175/2m ☆

Expensive AC-conditioning/filtering/isolation system

that DO found to give significant increases in sound-stage purity and spatial resolution. RH "was impressed by the straightforward yet insightful engineering" in these products, "which are designed to keep noise on your AC line from getting into your components.... The package appears to be the most comprehensive power-line treatment system available." (Vol.17 No.12, original versions; Vol.19 No.1, Mk.II versions.)

Panamax Max 1000+ surge protector/line conditioner: \$299

"Many thunderstorms have come and gone," says SS, "but none of my video gear has been damaged." Panamax offers a unique warranty—if your gear gets fried while hooked up to one of their units, Panamax will replace it (though their fine print does list conditions that must be met for this to happen). SS doesn't recommend the Panamax be used with power amplifiers. He also points out that it shuts down on brown-outs or sudden high-power demands. "For low-power components and video gear, the Panamax is the cheapest peace of mind I know," he sums up. "Sounds good, too," adds BW, commenting that it made his gear sound "a bit cleaner, more fully 'shaped,' better defined, more open, and alive." (Vol.19 No.11)

Synergistic Research Reference AC

Master Coupler: \$600/5ft

"Brings out the best in whatever components you hook it up with," declares JS of the AC cord. "Lets the music through more effortlessly." (NR)

TG Audio Labs HSR Squared Power Cord: \$480

"This elaborate high-capacitance, low-inductance power cord consisting of seventeen 18-gauge wires connected via a single IEC connector revealed more detail, dynamics, bass, and soundstaging info, and more extended and sweeter highs from my Audible Illusions Modulus L1 preamp than did the stock cord," says RJR. (NR)

Versalab Wood Blocks: \$165-\$430

Versalab Ground Block: \$70

WP used the Wood Blocks—AC RF filters—in conjunction with the other Versalab components, finding that, used as a system, they did unmask detail and nuance obscured by RF contamination. The Ground Block is an RF filter for grounding paths (such as the separate ground connection on a tonearm) designed to be used with other Versalab filters. WP recommends it highly, when used in conjunction with other Versalab components. (Vol.19 No.6)

Yamamura Millennium 6000 AC cord:

3-pin, \$555/1m pair; 2-pin, \$440/1m pair

MF's reference. See "Interconnects." (NR)

K

Yamamura Ciabattas, Equi=Tech 1.5 R, Power Science LTD Foundation Conditioner, Aural Symphonics Missing Link Buss Cubed (MLB6), TG Audio Lab PC-3 AC cords & Power AC Outlet Center, and Electra Glide AC cords.

Deletions

Perfectionist Audio Components IDOS, Super IDOS, and IDOS II not auditioned in a long time.

Stands, Spikes, Feet, & Racks

Good Speaker Stands

There are too many possibilities, but, briefly, a good stand has the following characteristics: good rigidity; spikes on which to rest the speaker, or some secure clamping mechanism; the availability of spikes at the base for use on wooden floors; if the stand is steel, provision to keep speaker cables away from the stand to avoid magnetic interaction; and the correct height, when combined with your particular speakers (correct height can be anything from what you like best to the

manufacturer's design height for best drive-unit integration). Though *Stereophile* hasn't reviewed speaker stands, it's not because we think they're unimportant—for speakers that need stands, every dollar spent on good stands is worth \$5 when it comes to sound quality. Brands we have found to offer excellent performance are Chicago Speaker Stand, Arcici Rigid Riser, Celestion Si, Merrill (see Vol.18 No.1, p.39), Sound Anchor, Target, Sanus Systems Steel and Reference, and Linn. (Sound Anchor also makes an excellent turntable stand, reports TJN.) Interface material between the speaker and the stand top plate is critical: Inexpensive Blu-Tack seems to reduce the amplitude of cabinet resonances the most (see Vol.15 No.9, p.162).

Arcici speaker stands: \$145-\$495/pair ☆

Available in versions for the ESL-63 and the original Quads (both \$295/pair), and for the Martin-Logan CLS (\$495/pair), these elegant stands enable electrostatic speakers to perform as God intended. Clamps them in a rigid embrace, raising the panels the optimal height off the ground. Now includes Super Spikes. The CLS version allows both the height and back-tilt of a pair of Logans to be optimized. Arcici's inexpensive Rigid Riser stands (\$145) offer adjustable height. (Vol.10 No.1, Quad ESL; Vol.17 No.6, Martin-Logan CLS)

AudioPrism Iso-Bearings: Small, \$54.95/3;

large, \$84.95/3 ☆

Squishy, nonreactive polymer balls with plastic cups are recommended by CG for effective acoustic isolation. (NR, but see Vol.15 No.9, p.162.)

AudioQuest Sorbothane Feet ☆

One of the best means of isolating components from vibration. A set of four big Feet costs \$69; four CD Feet, \$45. (NR)

Audio Selection Cones (formerly German Acoustics): \$11 each ☆

These effective brass-colored steel cones have removable hardened tips. (NR, but see Vol.15 No.9, p.162.)

Audio Stream Premier R-series rack system: from \$139 ☆

System consists of R-30 Expandable Rack, \$179; R-ES Expansion Shelf, \$49; R-CC Cable Channel kit, \$35; and R-10 Amp Stand, \$69. Excellent value, noted SS, but not rigid enough for use with a turntable. (Vol.16 No.10)

Billy Bags 1823/1824 amplifier stands:

\$349/\$269 ☆

Billy Bags 4800 component stand:

\$795 standard, \$1198 custom ☆

Billy Bags Design 5500-7 series component rack: \$1098 ☆

RH had nothing but praise for these solidly built—and sand-filled—welded metal component racks. Available in stock configurations, or custom-built for specific systems. RH cites tightened image focus, greater dynamic contrasts, and increased resolution of low-level detail as results of using the Billy Bags stands—although he noted that turntables may require additional, or different, isolation schemes. (Vol.17 No.12, Vol.18 No.11)

Black Diamond Racing Pyramid Cones: \$20 each

"Expensive, but very effective," according to J-10. WP and JA, who generally use these whenever they need to support electronic components, concur. (Vol.21 No.6)

Black Diamond Racing The Shelf: \$440-\$875

Heavy, costly, but extremely free from torsional flex, this loaded carbon-fiber isolation platform impressed WP with a "marked increase in perceived silence" when placed under equipment. He also noted that low-level musical information became more prominent with the support in his system. JS said, "Transparency was greatly enhanced, coupled to a greater sense of air and original acoustic." WP maintains that when he "wants to *really* hear what a component is doing—as free as possible from the effects of its environment—it ends up on The Shelf." (Vol.19 No.2, Vol.21 No.6)

Bright Star Air Mass 3: \$99

Ingenious, inexpensive, and effective air-bladder product that damps out floor and air-borne vibrations, MF

Edge of the Art

The Year's Most Exciting Home Theater Components from Theta Digital!

Theta's renowned **Casablanca** (starting at \$4,500) surround sound controller is recognized as the industry standard. Dolby Digital, DTS, a superb Theta DAC, circle surround and full remote control are delivered with state-of-the-art performance. It's open architecture design allows for future upgrades.

The all new **Casa Nova** surround sound controller offers many of the Casablanca's performance and features at a more affordable price including Dolby Digital, DTS, and video switching.

Theta's years of experience in designing and manufacturing ultra high performance CD and Laser Disc players pays off in the all new **DaVid** (\$4,500) CD/DVD transport. Among the first to playback DTS software, the DaVid features extraordinary resolution and detail, whether used for CD or DVD playback.

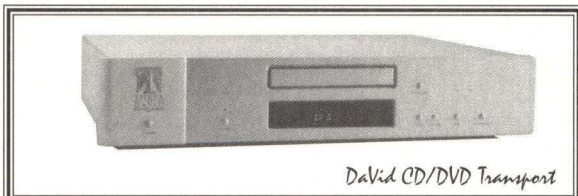
For the ultimate Home Theater system, the **Voyager** (\$6,500) is your choice. It plays DVD, CD, LD, and Video CD with the highest performance available. This is the flagship of Theta's line, a no holds barred assault on edge-of-the-art video and audio reproduction. When combined with Theta's renowned Casablanca processor you have the *ultimate* in performance.



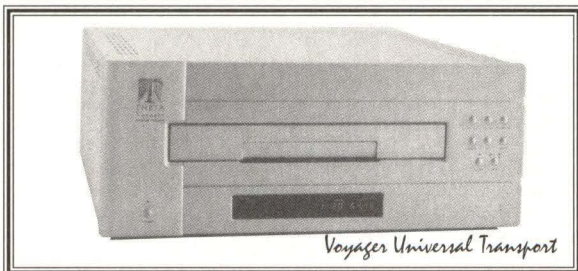
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said. WP concurs. Originally called Air Mass 1. (Vol.20 No.2)

Bright Star Audio Rack of Gibraltar 1 equipment stand: \$1495-\$1595 ☆

Bright Star Audio Big Rock 1: \$175-\$199 ☆

Bright Star Audio Little Rock 1

Isolation Pod: \$149-\$165 ☆

Bright Star Mini-Rock F VPI isolation base: \$89
A very effective isolation system for control of unwanted vibrational energy. Individual components float on a sand bed for energy dissipation, and are weighted down with the Little Rock to minimize spurious vibrations. Sonically, the payoff is enhanced resolution of the music's nuances, says DO. RN adds that this system consistently tightens the bass, increases sonic transparency, and smooths treble hash and grain. The Bright Star TNT Big Rock is a \$275 sand table specially sized to support the TNT. WP, MF, BD, and RJR all use one under their VPIs, as they provide a stable surface and offer such sonic benefits as a lower noise floor and increased bass. The Mini-Rock F is specially sized for use under the TNT's flywheel. (Vol.16 No.5; Vol.18 No.11, Mini-Rock F; Vol.20 No.4, TNT Big Rock.)

Bright Star Ultimate TNT Suspension System: \$893

Simple, affordable, effective isolation system for the VPI TNT that combines a static pneumatic isolation mount with mass loading. WP noted that "high frequencies seemed clearer, less smeared—harmonics leapt off strings and floated independent of the fundamental.... Bass sounded more deep and taut, especially sustained notes or anything in the bottom two octaves of the piano." BD agrees, finding that the Suspension System lowers the TNT's (already low) background noise, resulting in subtle but noticeable improvements in image dimensionality, ambience, and inner detail. (Vol.20 No.7)

Ebony Pyramid footers: \$45/3

"At \$45 for a set of three," JS said, "these guys are a real bargain, and highly recommended as an antidote for lean, harmonically threadbare systems." (Vol.21 No.2)

ECS ball-bearing isolation devices: \$59.95/3

Felt pads on the bottom may keep feet from marring wooden floors, ST said, but they may also cause your gear to slide around on slick shelves. Possibly not as effective on carpet as on bare floors, he surmised. Price is for version to go under electronic components; threaded version (for speakers and stands) costs \$69.95/4. (Vol.20 No.12)

G-Flex M1 vibration damping devices: \$195/3

With the M1s in place, JS thought "the sound was tight and transparent, the speed and clarity building up from the lower to the upper mids and up into the lower treble.... The highs were open, quick, and extended." Bass seemed less controlled than with the best footers he's used, however. (Vol.21 No.3)

Golden Sound DH Cones, Squares, and Pads:

Jumbo Cones cost \$70/3; large, \$50/3; medium, \$40/3; small, \$20/3. Squares cost \$30/3; \$40/4; Pads cost \$150 (12 1/2" by 17 1/2" by 1/2" thick)

With the Cones alone, JS "noted a lift in overall transparency, with a slightly tighter focus." Using the Squares alone, "the sound was softer than the Cone/Square combo... but nevertheless got high marks for a sweet and pleasant presentation." And in combination? "The highs and upper midrange were beautiful and open, the midrange had just the right amount of juice, the lower midrange wasn't boomy at all, and the bass extension was excellent." ST is also a fan, particularly of the Pads, which "wrought quite an improvement in sound under my Cary SE300Bs." (Vol.20 Nos.11 & 12)

Harmonix RFS-65/RFS-66 tuning feet:

Small, \$400/4; large, \$470/4

The feet—both large and small—"seemed to bring out the depth, resonance, tonality, and burnish of the very notes themselves," said JS. "While I can't promise you they'll work their wonders under every component imaginable—you should always listen for yourself and judge—they usually worked for me." (Vol.20 No.12)

Magro 24 Component Stand: \$448 ☆

These unique stands lean against the wall. Elegant. Highly recommended by WP, who found that his system sounded better (presumably because the stands are nonferrous). Magro 24 Console costs \$218; Magro 24 CD Holder costs \$68. (Vol.18 No.2)

Michael Green's Audio Video Design MTDs for electronics: \$68.95/3 ☆

Sharp-pointed cones, formerly called AudioPoints, made of solid milled brass that RD found to be the best in tightening the bass and improving the midrange focus of Dunlavy SC-IV loudspeakers. A set of four variously threaded loudspeaker points costs \$103.95-\$114.95. (NR)

Michael Green's Audio Video Design Deluxe

JustaRack: \$354.95-\$894.95 ☆

Rigid, well-made component rack. Similar ClampRack—see Vol.15 No.3, p.140—allows the components to be squeezed to reduce the levels of vibration-caused sonic spurs. (Vol.16 No.10)

PolyCrystal Equipment Isolators: \$65/3

Isolators are stubby cones employing PolyCrystal, a composite made from inert materials embedded in resin. They are meant to be placed under electronic equipment. "The Isolators sound like what they are," said JS: "irregular crystal junctions within the resin matrix that absorb wayward resonances. The clarity and richness of the sound is, I believe, due to the absence of resonance-induced coloration. Whatever, it was sexy and engaging—it made me feel young again." (Vol.21 No.4)

PolyCrystal Brass Spikes: \$49.95/4 (1.25"), \$69.95/4 (1.75")

Tall and slim, the spikes are made of brass encased in PolyCrystal and have 1/4"-20 threaded shafts, which allow them to be substituted for the stock threaded spikes on electronic components or speakers. JS found them effective, calling the resultant sound "beautifully open, clear, and lovely"—if "a touch darker-sounding" than some others. (Vol.21 No.4)

Salamander Designs Synergy System equipment racks: \$109.95-\$389.95

Remarkably versatile system of equipment/accessory racks that had WP redecorating like crazy. Extremely handsome wood finishes make these easy to integrate into real homes. Those desiring the utmost in stability and rigidity still need to seek other solutions. (Vol.20 No.9; see also WP's review in this issue.)

Sanus Systems CF-45/CF-35 component stands: \$375/5; \$324/4 ☆

Component racks of five (45) and four (35) shelves that TJN recommends as being good value. Assembly required. (Vol.14 No.11, Vol.16 No.10)

Silent Running turntable base: \$600-\$850 depending on finish

Multidensity, multilayered, resonant-damped, self-leveling, rigid low-mass platform designed specifically for the Clearaudio Reference turntable. "Absent a Vibraplane or other active air support," MF says, "I wouldn't want to own the highly microphonic Clearaudio 'table' and arm without this sophisticated isolation stand." Deluxe version costs \$1100, any color. Limited "Ohio Class" edition costs \$2000. (Vol.20 No.11)

Sound Anchors Cone Coasters: \$20

A machined stainless-steel/Kevlar/polyester sandwich disc designed to prevent speaker spikes from ruining your floors and to prevent vibrations from being transmitted through wooden floors. RJR found that using them with his Alón Vs resulted in greater perceived detail and "faster" bass. (NR)

Symposium Acoustics Energy Absorption Platform: \$200

This laminated aluminum/fiberboard/foam shelf jazzed MF with the "top-to-bottom authority, focus, and slam" that his system gained when the platform was installed under his turntable. Price is for 18" by 14" size. (Vol.20 No.5)

Target TT series equipment racks: \$99-\$365 ☆

Finished in basic black, these useful but inexpensive racks feature rigid, welded rectangular-steel-tube con-

struction, price dependent on height and number of shelves (from two to five). Spiked feet supplied, with top shelf resting on upturned, adjustable spikes to optimize it for turntable use. Target's wall-mounting turntable shelves (\$140-\$175) are possibly the best way of siting your turntable out of harm's way, says JA. (NR)

Tiptoes: \$12.50 each ☆

The Mod Squad's greatest invention. The least expensive way of improving the bass and midrange definition of virtually any loudspeaker when used to couple the speaker or stand to the floor. Version with thread or screw costs \$17.50 each. (Vol.9 No.1)

Townshend Audio Seismic Sink: \$349-\$725 depending on size

MF was amazed at the difference this inflatable isolation platform made to the sound of his turntable—even though he'd already gone to great pains to isolate it. "Focus improves dramatically," he goggled; "the noise floor lowers, images solidify, and the sound takes on a softness... that is much closer to what live music sounds like." He did not care for it under tubed preamps, however, although SD noted an improvement in clarity and focus when used under his SFL-2. SD also recommended stacking them, claiming that additional benefits accrue. Much to his astonishment, he found use of the Sinks audibly improved the performance of CD transports and D/A processors. (The CD Seismic Sink costs \$150.) (Vol.18 No.11, Vol.19 No.1)

Vibraplane Model 2212 Active-Air Self-Leveling Air Table: \$4950 ☆

Isolation platform designed to stabilize electron microscopes and other precision laboratory gear that SD enthusiastically endorses for use in hi-fi systems. "Unlike many improvements that blend into your normal expectation after a few weeks of acclimatization, you'll appreciate the visceral presence that the Vibraplane adds to both digital and analog playback every time you spin some wax or plastic," he predicted. He was also chuffed by improvements in imaging, low-level microdynamics, timbral truth, and percussive impact, claiming that "every aspect of the sonic presentation took on new life." JS found the Vibraplane to work well with CD players and transports. Active system includes air compressor. The 2210 Passive-Air version, which needs to be pumped up manually, costs \$1695 plus S&H. (Vol.17 No.5, Vol.18 No.11, Vol.20 No.5)

Vibrapods: \$6 each

A KR favorite. "Placed under CD players/transports, DACs and preamps, the small (<3" diameter), formed Vibrapods isolate and enhance performance. Rated for loads of 2-4 lbs; match the quantity to the component. I keep a box of them around so that no component goes without." (NR)

Walker Audio Valid Points Resonance Control Kit: \$230

MF liked these spikes a lot but felt they were pricey. They are. But MF admits that "not only do I like them a lot, they're well worth the price—as I clearly found when I put a set under the Ayre K-1 and added a few of the discs on top." Price is for three small cones with five discs and 1/4lb of Mortite; price with three larger cones with five discs is \$260. (Vol.20 No.5)

Yamamura Speaker Bearings: SP-Q, \$295/2; SP-31, \$240/2

"Nail your friend's foot to the floor," Audio Physic designer Joachim Gerhard requested of me, "then touch his forehead... he'll fall over. HA HA HA HA." The Yamamura speaker bearings replace points with ball-bearing platforms that don't move, but "give" just enough to dissipate vibrational energy stored in speaker cabinets. They work under smaller floorstanding speakers like the AP Virgos, reducing remnants of "boxy" colorations, though you're probably skeptical. "Try 'em, you'll like 'em a lot," advises MF. (NR)

K

A.R.T. Q-Dampers, Laser-Base Component isolation frame, Zoethecus stands.

Edge of the Art

The New Way to Listen...from Z-Systems

The Revolutionary Digital Preamp With Equalizer for Masterful Sound

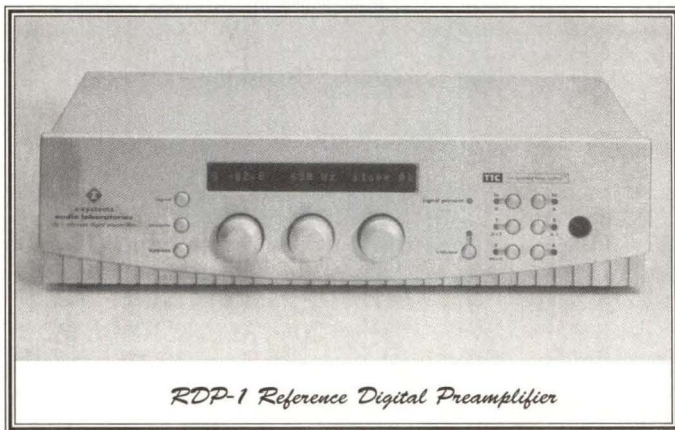
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Imagine being able to get inside the heart of a recording and alter the sound to work best on your system and in your room. Until now, tone controls and equalizers, came at a price - noticeably degraded sound.

Z-Systems Audio Laboratories has the solution. As an industry leader in CD mastering technology, Z-Systems knows which sonic alterations can enhance the listening experience. With their breakthrough new **RDP-1 Reference Digital Preamplifier**, (\$5,000) you can affect volume, balance, input, dither, format conversion, and most important, parametric equalization. Tame difficult room acoustics. Correct for a slightly harsh recording, or enhance the qualities you look for. Z-Systems is the first to enable these alterations in the digital domain, and therefore, with no sonic degradation.

The RDP-1 connects between your digital sources and D/A converter. Six digital inputs and three outputs covering the range of formats are included. Full 24-bit resolution and 100 comparable memory presents enable you to program your sound and call it back anytime.

Just out for Home Theater aficionados, the new **RDP-6** (\$7,500), combining all the features of the RDP-1 with surround sound capability.



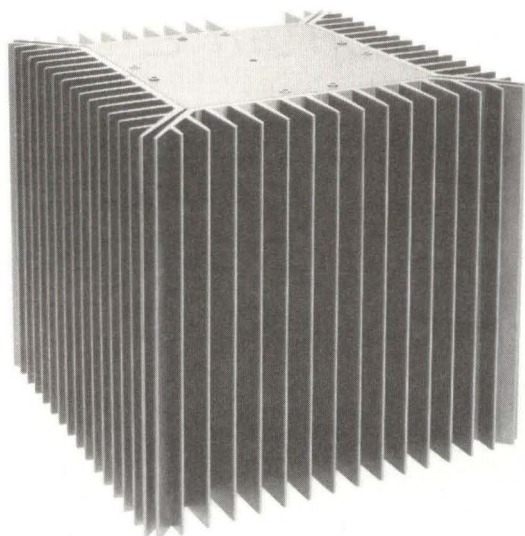
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Golden Dragon Audio Tubes



The Golden Dragon project is controlled in England by former employees of Mullard, M-O Valve, and Brimar. Each Golden Dragon tube goes through many prototype iterations, each of which is evaluated for both measured performance and sonic character. Only when superb sound is achieved does a design become a Dragon.

TRIODES/PENTODES	Low Noise & Matched								
	Each	Low Noise	Matched Pair	Low Noise & Matched		Pairs	Quads	Sextet	Octet
12AT7A	18.00	28.00	46.00	70.00	6550WB	170.00	348.00	524.00	700.00
12AU7A	18.00	28.00	46.00	70.00	KT66	55.00	118.00	179.00	240.00
12AX7A	18.00	28.00	46.00	70.00	KT66 Super*	150.00	308.00	464.00	620.00
6DJ8/6922	25.00	40.00	72.00	102.00	KT88 Classic	150.00	308.00	464.00	620.00
12AT7A Gold Pin	25.00	35.00	60.00	84.00	KT88 M*	150.00	308.00	464.00	620.00
12AU7A Gold Pin	25.00	35.00	60.00	84.00	KT90*	150.00	308.00	464.00	620.00
12AX7A Gold Pin	25.00	35.00	60.00	84.00	KT90LX*	170.00	348.00	524.00	700.00
6DJ8/6922 Gold Pin	30.00	45.00	82.00	112.00	807	68.00	144.00	218.00	292.00
6SN7GT	22.00		54.00		2A3	120.00	248.00	374.00	500.00
EF86 Gold	25.00				2A3 Octal	120.00	248.00	374.00	500.00
					211	155.00	318.00	479.00	640.00
POWER TUBES									
	Pairs	Quads	Sextet	Octet		Pairs	Quads	Sextet	Octet
EL84/6BQ5	23.00	54.00	83.00	112.00	300B Super	380.00	768.00	1154.00	1540.00
E84L/7189	30.00	68.00	104.00	140.00	4300B*	380.00	768.00	1154.00	1540.00
6V6GT	42.00	92.00	140.00	188.00	4300BLX*	560.00	1128.00	1694.00	2260.00
EL34M	55.00	118.00	179.00	240.00	811A	65.00	138.00	209.00	280.00
E34L	65.00	138.00	209.00	280.00	845	193.00	394.00	593.00	792.00
6L6GC	45.00	98.00	149.00	200.00	RECTIFIERS				
5881	55.00	118.00	179.00	240.00		Each			Each
350B	70.00	148.00	224.00	300.00	5AR4	25.00	5U4G		20.00
6550A	95.00	198.00	299.00	400.00	GZ34	25.00	274B		38.00
					GZ37	20.00			

*Denotes New One Year Warranty (others 90 days).



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Deletions

Arcici Superstructure I and II discontinued.

Room Acoustics Treatments

Argent RoomLens: \$399 each, \$1195/3

These room-tuning devices "act as a single broadband resonator," as JS reported their designer saying. What'd he hear when he tried them? "The Lens, first and foremost, let through more information about the recorded venue. The byproduct of this was a heightened sense of articulation, both in the micro and macro senses. Pace and timing were somehow enhanced... Transparency was definitely improved, so the palpability factor was higher. All the usual audio suspects—tightness and articulation in the bass; clarity and harmonics in the midrange; extension, linearity, and sweetness in the highs—were nicely served." (Vol.21 No.8)

ASC Cube Trap: \$370

"A smaller, more cosmetically acceptable, more affordable version of the classic Tube Trap," writes RJR. "Very effective at taming mid- and upper-bass room anomalies. Looks like an attractive Vandersteen speaker sitting there in the corner." (NR)

ASC Tube Traps: \$248–\$678 depending on size and style ☆

Relatively inexpensive but remarkably effective room-acoustics treatment. Tube Traps soak up low-to-high bass standing-wave resonances like sponges. The \$315 Studio Trap provides easily tuneable upper-bass absorption that JE found to be a boon with the Martin-Logan CLS IIAs. WP agrees, using Traps to optimize the acoustics of his room for Martin-Logan SL3 electrostatics. (Vol.9 No.3, Vol.15 No.2, Vol.16 No.12, Vol.19 No.1, Vol.20 No.5.)

Cambridge Signal Technologies SigTech TF 1121 Time Field Acoustic Correction System:

\$6490–\$12,990 depending on options

Sophisticated digital acoustic equalization system presents "an elegant solution to the problem of acoustically corrosive environments," reckoned SS. While he found the differences wrought to be subtle, he noted that female voices sounded more harmonically complete, that inner detail was improved, and that lower bass transients were cleaner and better delineated. Imaging was also improved. However, the system added a slight sense of grain and lacks a sufficiently high-end A/D section to satisfy most analog devotees. (Vol.19 No.12)

RoomTunes (Deluxe floorstanding):

\$298.95/pair ☆

RoomTune CornerTunes: \$103.95/4 ☆

RoomTune EchoTunes: \$52.95/pair ☆

Idiosyncratic and effective "less-is-more" acoustic treatment for your listening room. GL was highly impressed, though others point out that care should be taken to not overdo things. The "Basic Tune Pak" room-treatment set of four TuneStrips, four CornerTunes, and two EchoTunes costs \$328.95. Four TuneStrips cost \$179.95. A MiniTune Pak (same 10 pieces, but smaller) for small- to medium-sized rooms costs \$229.95. (Vol.15 No.3, Vol.16 No.1.)

RPG Diffuser Systems "Acoustic Tools for Home Theater" ☆

Effective method of adding diffusive and absorptive treatment to a listening room. RPG Diffuser Systems offers complete room-treatment packages, called "Acoustic Tools for Audiophiles I & II," which can be installed in a matter of hours. RPG also offers its "SoundTrac" package for no-compromise home-theater installations, working directly with the client, architect, and/or acoustic consultant. (Vol.11 No.4, Vol.16 No.5; see also TJN's article on listening rooms in Vol.14 No.10.)

K

Echo Busters.

Loudspeaker Cables & Interconnects

Editor's Note: Rather than place cables in the usual "Recommended Components" classes, we've just listed those that members of the magazine's review team either have chosen to use on a long-term basis or have found to offer good value for money. They are therefore implicitly recommended. When a cable has been found to have specific matching requirements or an identifiable sonic signature, it is noted in the text. "Try before you buy" is mandatory with cables; many dealers have a loaner stock to make this easier.

Interconnects

Alpha-Core Goertz Sapphire:

\$341/1m pair terminated with RCAs

Alpha-Core Goertz Tourmaline:

\$87.50/1m pair terminated with RCAs

Flat-conductored interconnects that DAS enthuses over. Offers lower inductance than shielded cable, yet has excellent RF rejection. "Impressive." (NR, but see JS's interview with Alpha-Core's Ulrick Poulsen in Vol.19 No.3.)

Audio Magic Sorcerer:

\$799/1m balanced with Neutrik XLRs;

\$699/1m unbalanced with WBT RCAs

SS recommends this expensive, handmade, fairly flexible, Teflon-insulated silver interconnect for its "high resolution, precise soundstage presentation, and excellent low-level information transmission." (NR)

Audio Note AN-C: \$100/1m pair

99.99% pure copper cable is coated with polyurethane, woven in a Litz configuration, and damped with extruded foam. RH noted its "smoothness, clarity, and lack of grain or edge." (Vol.20 No.3)

AudioQuest Topaz: \$75/1m pair ☆

Slightly lean midbass, according to RH, but otherwise uncolored at an affordable price. Great value. (NR)

AudioTruth (AudioQuest) Lapis x3:

\$575/1m pair terminated with RCA plugs

\$675/1m pair with AQ custom XLRs and direct gold-plated FPC sockets and pins ☆

Tonally, the latest version of Lapis (which uses RCA plugs made from Functionally Perfect Copper, or FPC, with the gold plating applied directly to the copper) seems to fall midway between the "mellow" cables—MIT, Monster—and those that are rather up-front in the treble, such as Madrigal HPC and Straight Wire Maestro. JA feels, however, that its outstanding virtue is a lack of grain that allows correct instrumental textures to flow freely and a deep, well-defined soundstage to develop. Auditioning of current-production Lapis, which uses Teflon insulation and long-grain, solid-silver conductors, suggests that this is the best AudioQuest interconnect yet, apart from their even-more-expensive Diamond x3. Auditioning of identical lengths of Lapis fitted with Neutrik XLRs and AudioQuest's own custom XLRs suggests that the latter represents a useful step forward in sound quality (!). Some compatibility problems with the XLRs, however, according to JA. (NR)

AudioTruth (AudioQuest) Diamond x3:

\$875/1m pair with RCAs

\$995/1m pair with XLRs ☆

Superb resolution of detail coupled with a musically natural midrange and excellent low-frequency weight. JA's reference. (Vol.19 No.8)

Cardas Golden Cross:

\$750/1m pair, balanced or unbalanced

Slimmer and more flexible than Five C, the Golden Cross offers outstanding resolution of low-level detail, finds SD, with an even, wide-open balance and a quiet, silky-black background. Gone are the slightly forward upper mids noted by JE of the Five C. (NR)

Cardas Hexlink Golden Five C: \$650/1m unbalanced pair ☆

Golden-section-stranded, PTFE-insulated interconnect needs an interminable break-in period, but then has a glorious bass and an excellent sense of pace and dynamics. JE found that the upper mids sounded a bit forward. (Vol.15 No.12)

Discovery Signature interconnect: \$450/m, RCA or XLR termination

Dual-shielded, multi-strand, low-capacitance cables whose performance/cost ratio impressed JS. Also of note, he felt, were the RCA connectors—sourced from Clearaudio—which were of extremely high quality and low capacitance. "Excellent imaging and dynamics," quoth he; "a lot of performance for the money." "Sweet high frequencies," adds RN. (Vol.18 No.12)

Esoteric Artus: \$550/1m pair with either

Accu-link locking RCAs or Neutrik XLRs

"At last!" exclaims WP, "A flexible high-end cable." He found it easy to manipulate in tight confines, and is happy to report that its sweet highs, articulate midrange, and tight, well-defined bass response were right on the money. (NR)

Hovland Tonearm-to-Preamplifier cable:

\$795/any length up to 1.5m pair with RCA or straight DIN terminations;

\$835 with 90° DIN connector;

\$40 extra for preamp XLR

"If you're willing to spend \$700 or more on a piece of cable to go between arm and preamp," MF writes, "and you can audition with a money-back guarantee, go for it! But don't expect to send it back." With the Hovland connected to his Graham 2.0 arm, "the Graham took on a relaxed, warm, more physical feel—yet all of the detail, depth, dynamic authority, and three-dimensionality remained." (Vol.21 No.2)

Kimber KCAG: \$390/1m pair, RCA or XLR termination ☆

Unshielded but astonishingly transparent, and offering improved image focus and even better clarity when compared with Kimber's PBJ. A JE and TJN favorite. (NR, but see Vol.16 No.7)

Kimber Silver Streak: \$180/1m pair

This low-impedance, low-resistance cable "represents a major performance breakthrough for the price," ST averred. Its secret? Only the signal-carrying portion of the braid is silver—the returns are copper. ST reported gains in clarity and quickness. "The sound is cleaner, quicker, less confused...I suggest you run with the Streak." BW adds that the Kimber's excellent resolution of detail and transients has to be balanced against the fact that it might add too much "zip" to already bright systems. (Vol.19 No.11)

Kimber KC-PBJ: \$68/1m pair, RCA or XLR termination \$\$\$ ☆

Unshielded cable that CG found to come very close to KCAG in his system, citing its HF detail, air, clarity, and tonal accuracy. For those with RFI problems, Kimber's KC1 (\$96/1m pair terminated with RCAs or XLRs) is the same cable with a grounded shield, but doesn't sound quite as good. (Vol.16 No.7)

Madrigal CZ-Gel-1: \$495/1m pair

JA finds this balanced interconnect to be spacious and easy on the ear, if not quite as dynamic-sounding as AudioTruth Lapis x3. (NR)

MIT MI-350 Reference CV Terminator: \$1995/1m pair, \$2060/1.5m pair

Fast, detailed, not-present sonically—and very, very dear! With truly neutral components, an unbelievable level of resolution becomes possible. Not kind to any form of bloat, smearing, or associated euphonia, however. Massive network cases at both ends make it impossible to use multiple sets—there just isn't enough room behind the preamp, moans WP. (Vol.19 Nos.1 & 8)

MIT MI-350 Twin CV Terminator Series II: \$1295/1m pair

RJR's reference interconnect. "Transparent, dynamic, and impressive performance at frequency extremes," says he. (NR)

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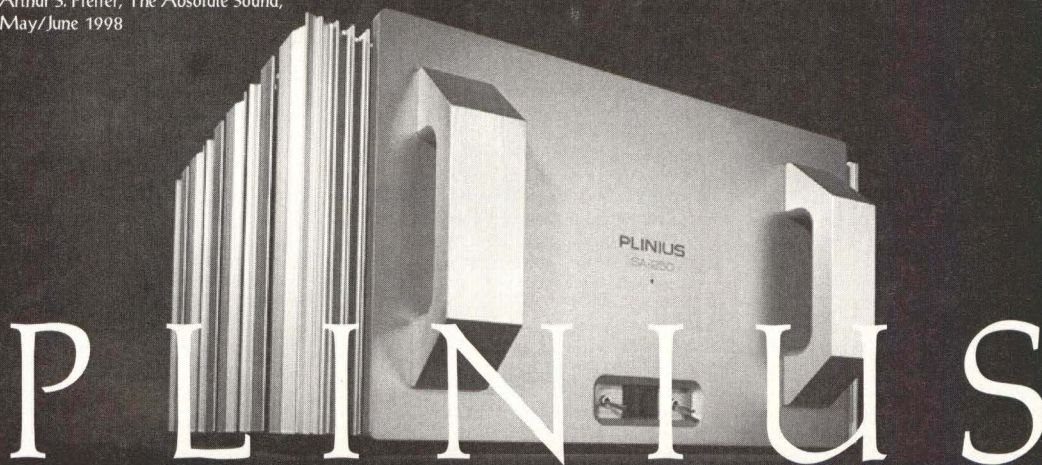
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*"It was very difficult to critique the equipment. I found myself lost in the music and the moment.
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MIT MiTerminator 6 interconnect:

\$29.95/1m pair

"MIT has pushed their performance level down into the bargain-basement price range for the first time, says RJR. "The Terminator 6 wires share the coherence, neutral tonal balance, and soundstaging capabilities of the pricier MIT wire. There's just less of everything there." (NR)

Nirvana S-L Series interconnect : \$695/1m,

\$795/1.5m, \$895/1m

BD says, "The Nirvanas are slightly laid-back in character, perhaps just a bit soft on sharp transients and at the frequency extremes, but with a natural coherence and ease that make a lot of other cables sound slightly strained. Other strengths include a huge soundstage and images that are detailed and tangible, but not the least bit etched or spotty." (NR)

Nordost Blue Heaven: \$199/1m pair (unbalanced), \$259/1m pair (balanced)

The Blue Heavens are the least expensive of Nordost's premium line. Compared to the very best (including Nordost's own Red Dawn and SPM), they're a little splashy in the upper midrange, notes BD, accentuating transients at the expense of inner detail. Their tonal balance is also tipped slightly upward. However, he found they have a speed and openness that's unusual in this price range. "They can really boost the goosebumps factor of an entry-level system," he said, adding that "[these interconnects are] the new reference in reasonably priced and/or small-system cables. (Vol.21 No.6)

Nordost Reference SPM interconnect:

\$1100/1m pair

"Whether configured as speaker cable or interconnect, SPM is simply the best I have ever heard," writes BW. "Speed, Precision, and Musicality: this product's performance exceeds its hype." (NR)

Precision Interface Technology

DIN-to-RCA cable: \$990/0.6m

Expensive and well constructed, but to MF's ears "not quite as dramatically 'right' as the Hovland." (Vol.21 No.2)

Straight Wire Maestro II: \$250/1m pair terminated with locking RCA plugs (MSI) or balanced with Neutrik gold XLRs;

\$70/additional meter ☆

Less laid-back than AudioTruth Lapis or MIT 330, with superb presentation of detail. May be too bright in some systems. (NR)

Synergistic Research Alpha Sterling:

\$170/1m pair

One of the best-sounding interconnects GL has tried; he also notes that it's easy to handle and is fitted with excellent RCAs. Available shielded or unshielded. (NR)

Synergistic Research Designer's Reference Interconnect: \$2000/1m pair, \$1000/pair each additional 0.5m ☆

These interconnects do everything superbly, says BD, who found that they're essentially neutral in terms of tonal balance and dynamics across the frequency spectrum. Particular areas of excellence, he sums up, include a realistic balance of inner detail and coherence, image dimensionality, and ambience recovery. JS agrees, noting that the Synergistic is "wide-band, ultra-dynamic (micro'n'macro), colorful, harmonic, detailed, [with] lots of air in a huge soundstage, deepest bass, *beaucoup* de midrange resolution and texture, [and] highs as sweet as your equipment can dish out." However, he did find it "a touch biased toward the large-gestured and grand rather than the small and well formed." (Vol.21 No.4)

TARA Labs The One: \$1895/1m pair

"Expensive stuff," JS said, but "...it's worth the hefty price of admission." He liked "the nuance, the quiet, detailed, and airy soundscapes...[the] swing and pace... It's hard to beat The One for freedom from low-level grunge." (Vol.21 No.8)

TARA Labs Rectangular Solid Core® "Decade": \$795/1m pair terminated with RCAs, \$828/1m pair with XLRs

"The 'Decade' interconnect images in an absolutely

first-class manner," JS observed. Despite noting their "fine initial transient handling," he preferred to dwell on "how sweet the 'Decade' sounded, without any of the negative connotation such an 'accusation' might incur...the sweetness lay between the notes." Unique connectors allow for "star grounding" by joining the cable pair's shields—an option WP found effective in banishing audible gremlins. Better the sound of the excellent TARA Labs "Master" Generation 2 by a margin that RD would not have thought possible. "Wonderfully open-sounding and detailed throughout the range," he adds. (Vol.19 No.12)

TARA Labs Rectangular Solid Core® "Master"

Generation 2: \$395/1m pair terminated with

RCA plugs, \$428/1m pair with XLRs ☆

An RD favorite interconnect, with a clear, open, uncongested quality. Clean, precise, and stunningly uncolored, agrees WP. The Generation 2 revision preserves the clarity of the original but has eliminated the stiffness that RD hated about the earlier version. GL notes that it comes with equipment-friendly locking RCAs. Conductor configuration mitigates against tight turns or kinks, however, so plan cable routing carefully, advises WP. Unique common shield connection makes this the cable WP turns to when plagued by voodoo hums—besides, he allows, "it just makes good sense." (NR)

Transparent Reference Single-Ended:

\$2000/1m pair ☆

Very, very pricey, but *very* right at capturing a correct sense of timing, says WP. Not even to be considered, however, unless you've dealt with the basics in your system, he warns. (Vol.18 No.5)

Transparent MusicLink Ultra:

\$895/1m pair terminated ☆

Similar in broad terms to the MITs that Transparent used to distribute, the Transparent interconnect works well in a WATT/Puppy-based system, says JA. (NR) **WireWorld Gold Eclipse interconnects: 1200/1m pair, RCA or balanced; \$450 each 0.5m pair** Expensive but very transparent, with little editorial effect on the signal in either balanced or unbalanced form, found RH. (Vol.19 No.8).

WireWorld Atlantis II: \$90/1m pair, \$18 each additional 0.5m \$\$\$

"A good budget interconnect," concluded RH, who could catalog a list of shortcomings *vis-à-vis* the \$1000/pair competition, but considered it "fundamentally uncolored" for its price. (Vol.19 No.8)

XLO Signature Type 1.1: \$625/terminated 1m pair; \$500 each additional meter-pair (shielded version available at slightly greater cost) ☆

JS thinks describing this interconnect to be a piece of cake: "neutral, detailed, very fast, alive, exciting, with a really big soundstage, plenty of well-controlled deep bass, a humpless midbass, and a *somewhat* leaner midrange than some cables, and airy, open highs." *Whew.* (Vol.18 No.9)

XLO Reference Type 1: \$275/1m pair ☆

JE found that, in the right system, XLO's Type 1 can sound marvelous, with an improved sense of dynamic contrasts. Soundstaging is a little flattened, however, compared with Cardas and Magnan Vi. (Vol.15 No.12)

XLO Signature Type 3.1 shielded phono cable: \$750/terminated 1m pair; \$600 each additional meter-pair

"How does Roger [Skoff] do it?" marvels JS, entranced by the "ultrasilent" presentation, blacker backgrounds, vivid and dimensional manner, and constant image and tonal balance that characterize this cable. Its retrieval of information is, he posits, without peer. While he considers it supremely neutral, "its clean, quiet, quick, and wide-band response could exacerbate bright or gritty recordings." (Vol.18 No.9)

Yamamura Millennium 6000: \$1050/1m pair

Yamamura cables and accessories are once again being imported into America. MF finds that these ultra-expensive interconnects, along with the speaker cables and AC cords, are by far the most open, rich, liquid, neutral-sounding, nonmechanical, and musical cables he has ever heard. System-dependent? He doesn't

know, but in his all-tube system the Millennium 6000 rules! "Pure and open, grain- and etch-free, yet detailed and ultraquiet—I can forget about cables and just listen. I have a tough room, and yet, as manufacturers who *actually bother to sit down and listen when they visit* continually tell me, despite the room's problems, 'You get great sound down there.' I give a good deal of credit to Yamamura's cables and accessories. But for some reason they rang like crazy with the Adcom amp I reviewed in Vol.21 No.4." (NR)

K

Straight Wire Virtuoso and Concerto, Synergistic Research Phase Two Mk.V, MIT MiTerminator 2, WireWorld GEI, XLO Limited.

Deletions

Cello Strings not auditioned in a long time.

Loudspeaker Cables

Alpha-Core Goertz MI Ag 2 Veracity: \$82.80/ft

Alpha-Core Goertz MI 2 Veracity: \$10.20/ft \$\$\$

JS was quite taken by the 9-gauge, high-capacitance silver cables, calling them "ultra-clean and delightfully fast." He also admired their extreme high resolution and wonderful spatial qualities, although he did note some degree of lightness in the bass. The less-expensive copper version is an LB favorite. (Vol.19 No.3)

Audio Magic Sorcerer: \$1499/8ft pair ☆

A silver cable insulated by PVC surrounded by silica sand that SS found to have higher resolution and a more neutral harmonic balance than his reference Dunlavy speaker cable. (NR)

Audio Note AN-L: \$19/mono foot, banana terminated

Shielded, Litz-constructed cable impressed RH with its "smoothness, clarity, and lack of grain or edge." (Vol.20 No.3)

AudioQuest Midnight Hyperlitz: \$415/8ft pair

terminated, \$495/10ft pair terminated ☆ Almost as good as AudioTruth Clear at a much lower price. (NR)

AudioQuest Indigo: \$187/8ft pair, \$215/10ft pair \$\$\$

Neutral, clean sound with excellent resolution of detail, says RH. "The bargain in affordable cables." (NR)

AudioQuest Type 4: \$2.50/ft \$\$\$ ☆

"The best cheap speaker cable on the market, and much better-sounding than F14," sez CG. "Try this stuff before laying down long green for expensive cables." (NR)

AudioQuest F14: 95 cents/ft \$\$\$ ☆ Inexpensive flat-twin solid-core cable that RH enthusiastically recommended as excellent value for money. (NR)

AudioTruth (AudioQuest) Argent:

\$1055/8ft pair terminated, \$1295/10ft pair ☆

This has many of the sonic attributes of AudioTruth Dragon, RH's reference, at a lower price. Excellent dynamics, articulate bass, and good soundstage depth. Also musically coherent and natural, sez RH. (NR)

AudioTruth (AudioQuest) Clear Hyperlitz:

\$1895/10ft pair terminated, \$1535/8ft pair terminated (most common length) ☆

Very expensive, but solid bass reproduction with a clear (hal), open midband and treble. Can sound rather lightweight in some systems, but almost defines the term "neutrality," says JA. Uses "6N"-pure copper bundles in a complex lay that brings every conductor to the surface to the same extent. (NR)

AudioTruth (AudioQuest) Sterling: \$2895/10ft

pair terminated, \$2335/8ft pair terminated ☆

AudioTruth (AudioQuest) Dragon: \$4595/10ft

pair terminated, \$3695/8ft pair terminated ☆

Two silver-conducted speaker cables that are maximally smooth and transparent, according to RH and JA.

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Nitpicks? Not a one!"

– **Jonathan Scull,**
VTL Wotan MB-1250 Monoblock,
Stereophile, June 1998

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JA also finds the powerful bass performance of Sterling to be its strongest suit. (NR)

Aural Symphonics Hybrid V3: \$3650/10ft biwire
Intended for biwire applications, Aural Symphonics' V3 was an excellent sonic match for SS's Avalon Eclipses. The spade lugs are also perfectly sized to fit in the Avalons' narrow termination strip. "Certainly worth consideration in any cost-no-object system," sums up SS. (NR)

Cardas Hexlink Golden Five C: \$840/1m pair, \$1360/10ft pair ☆

Very similar in sonic character to the Cardas interconnect. A JE reference cable. (Vol.15 No.12)

Cardas Cross: \$398/1m pair

Relatively affordable speaker cable that remains a JA favorite. (NR)

Discovery 1 2 3: \$320/8ft pair terminated

"Unbelievably high performance for relatively low cost," effuses JS. Unshielded speaker cable that can be configured for single, bi-, or tri-wiring at no additional charge for termination. JS found it "had great bottom-end heft and pitch definition, a clear and detailed midrange, and excellent highs (if not quite as extended as some of the multi-kilobuck cables)." (Vol.18 No.12)

Dunlavy Audio Labs DAL-Z6: \$400/8ft pair, \$475/12ft pair, \$550/16ft pair, \$675/24ft pair ☆

An inexpensive cable that SS recommends highly. While it doesn't warm up or harmonically enrich a speaker's sound, neither does it emasculate or whiten it, he notes. A nice ergonomic touch is the use of interchangeable screw-in terminations (3/8" spades, 1/4" spades, or banana plugs, \$40/4). (NR)

Kimber Kable BiFocal-XL: \$1500/8ft pair

The XL version of the BiFocal cable doubles the number of connectors, and "in the right system is a big step up in every way," reported BD. The improvement, he says, "adds just a bit of tangibility, and slightly better extension and accuracy at the frequency extremes." (Vol.21 No.5)

Kimber Kable BiFocal-L: \$1000/8ft pair

A different design from Kimber, the BiFocal-L offers "a well-balanced mix of characteristics that should mate beautifully with a wide range of systems," according to BD. He adds, "These cables do just about everything right and are among the very best I've heard." (Vol.21 No.5)

Kimber 4AG: \$120/ft ☆

An expensive hyper-pure silver cable that can offer a glimpse of audio heaven. Significant system sensitivity, points out DO, so be sure to check for compatibility before you buy. No charge for termination. (NR)

Kimber 4TC: \$6/ft \$\$\$ ☆

Kimber 8TC: \$10/ft \$\$\$ ☆

A double run of 8TC greatly improves the sound, feels DO. Excellent bass. (NR)

Kimber 4PR: \$1.20/ft \$\$\$ ☆

Least-expensive cable from Kimber was found to have good bass, but a "zippy" treble and poor soundstage, according to DO. With inexpensive amplifiers, however, its good RF rejection, compared with zipcord or spaced-pair types, will often result in a better sound. (NR)

Nordost Reference SPM loudspeaker cable: \$3350/2.5m pair

A BW favorite. See "Interconnects." (NR)

MIT MH-850 Multi-Bandwidth CVTerminator: \$8995/8ft pair, \$14,125/45ft pair (balanced) \$6995/8ft pair, \$7250/10ft pair (single-ended)

The special triwire harness for the Avalon Radian HC was reviewed in conjunction with the complete Spectral/Avalon/MIT 2C3D system. RH noted that this complex, "Multiple Bandwidth Technology" tri-wired speaker cable "weighs more than many small power amplifiers and costs more than the Spectral DMA-180 amplifier." However, as a component of the system that RH described as "staggering" in its ability to reveal low-level detail, it must be accorded as successful in passing that information along. "The soundstaging in particular," he raved, "was more three-dimensional than any other system I've heard." (Vol.19 Nos.1 & 2)

MIT MiTerminator 6 speaker cable:

\$59.95/8ft pair

Great Value, sez RJR. See "Interconnects." (NR)

Monster Cable M2.2s: \$425/8ft pair with M Spades; \$575/8ft biwired pair (M2.4s)

"Excellent, fast, deep, transparent bass," said JS, listing this cable's attributes: "no upper-midrange bloat; midrange very well developed; upper mids smooth, not quite revealing; and treble slightly tweaked up in the presence region, vivid, then shelved back a touch above, with a hint of grain right in that little transition area on top. Large-scale dynamics were good to jolly good, but low-level shifts in microdynamics weren't handled quite so well.... I liked the cables anyway." (Vol.21 No.3)

Naim NACA5: \$5/ft \$\$\$ ☆

Inexpensive cable that ST found to work well with the Sendor S100 loudspeaker. Worth investigating as a good-value cable, thinks JA. (NR)

Nirvana S-L Series speaker cable: \$1095/2m, \$1495/3m

A BD favorite. See "Interconnects." (NR)

Nordost Blue Heaven: \$399/2m pair with spade or banana plugs

The Blue Heaven speaker cables are sonically very similar-sounding to the interconnects, notes BD, with a slightly tipped-up tonal balance. "Exceptionally good low- to midpriced... speaker cables," BD said. "Their distinctive design promised—and delivered—a fast, clean, dynamic sound.... Within their price range and in the systems for which they are intended, they're nothing short of magical." (Vol.21 No.6)

OCOS cable: \$10/ft plus \$75/pair terminated \$\$\$ ☆

Distributed by Sumiko, this idiosyncratic cable was found by LG to have a speed and clarity he hadn't heard from other cables. He found the bass to be a little lightweight, but votes it a "three-star" design. (NR)

Purist Audio Colossus Rev.B: \$1330/1.5m pair, \$220/additional 0.5m ☆

The famed "water" cable with a fluid-filled insulating jacket. AB found "resoundingly open staging with a remarkably distinct lower-midrange/upper-bass presentation that lends music a great sense of pace." (NR)

RadioShack 18-gauge solid-core hookup wire: \$3.99/60ft spool \$\$\$ ☆

Ridiculously cheap way of connecting speakers, yet ST reports that this cable is okay sonically. You have to choose for yourself whether to space or twist a pair for best sound (or even whether to double up the runs for less series impedance). (NR)

Synergistic Research Designer's Reference speaker wire: \$4000/10ft pair

Like the Designer's Reference interconnects, BD finds these speaker cables to be essentially neutral. "They add so little character of their own to a system's sound that they'll likely seem unimpressive on first listen," he warns. CS agrees, adding that he was "impressed with the way they just get out of the way and let you zero in on the music... [they] throw a good image with a lot of air in it, natural highs, smooth midrange, and nice, tight, uncolored bass." JS concurs: "one of only a handful at the very top of the cable hill." (Vol.21 No.1)

Synergistic Research Signature Nos.2 & 3: \$675/10ft pair

"High-rez, wide-bandwidth cables that let the music speak for itself," sums up JS. Dealer can fax Synergistic a list of components and receive back a recommended list of cables depending on system, room acoustics, and customer's musical tastes. (NR, but see JS's interview in Vol.18 No.11)

TARA Labs The One: \$4300/8ft pair

This low-inductance speaker cable impressed JS. "The soundstage was... utterly transparent out to its farthest corners. In its naturalness, music was somehow more fully available to me. Pace and timing were enhanced by this clean, natural clarity of presentation.... Imaging was gee-whiz palpable... it transcended the 'picture' to embody the essence of the music." (Vol.21 No.8)

TARA Labs Rectangular Solid Core® "Decade": \$2200/8ft pair, \$2700/10ft pair, \$3200/12ft pair

Not as much of an improvement over the RSC "Master" Generation 2 speaker cable as the RSC "Decade" interconnect represents over its RSC "Master" Generation 2 equivalent, but dynamics are slightly better, and it corrects a very slight tendency toward leanness. The cast spade-lugs are beautifully made, but with some speakers (eg. Dunlavy SC-IVs) they're difficult to attach in a biwire configuration, finds RD. "Images were never shadowy, wispy, or lacking in body" with this cable, JS avowed. "The Decade was quiet, wide-band, lithe, and agile." (Vol.19 No.12)

TARA Labs Rectangular Solid Core®

"Master" Generation 2: \$810/8ft pair, \$990/10ft pair, \$1170/12ft pair ☆

RD found that these cables have wonderful lucidity and a top-to-bottom coherence that's truly heavenly: "The Almighty sure knows His cables." AB found it to have an endearing smoothness, "but without obvious loss of detail due to softness." DO's favorite speaker cable: "Quite spectacular in its resolution of spatial information," he says. The latest Generation 2 has greater top-end air and is more flexible, notes RD. SD feels it is "definitely reference caliber." (NR)

Transparent Audio Reference: \$4800/8ft pair, \$5000/10ft pair, \$5200/12ft pair; spade-terminated ☆

Hideously expensive, notes WP, but this speaker cable resolves the timing involved in music—not just at the level of overtones relating to fundamentals, but also at the global harmonic/melodic level. They also, he adds, portray silence as a physical, not just a theoretical, reality. That means he likes them. (Vol.18 No.5)

XLO Signature Type 5.1: \$120/running foot plus \$150 termination/pair ☆

"The jewel in the XLO crown," JS states emphatically, despite confessing it to be "... big, heavy, unwieldy, and a positive bear to twirl." Small prices to pay, he feels, for sound he praises as "transparent yet full-bodied, and they imaged like nobody's business. The entire bass range was as close to perfect as I've ever heard from a cable. Midbass detail was unfettered by colorations and frequency anomalies.... The upper midrange and treble... were completely grainless and free of brightness or other artifacts." (Vol.18 No.9)

XLO Reference Type 5: \$55/ft, plus \$100 termination ☆

"This is the real gem of the XLO [Reference] line."—JE. "Very transparent and detailed"—AB. Perhaps a touch of midrange prominence makes it less suitable for speakers that are already balanced too forward in this region. Not as expansive as TARA RSC or Monster Sigma; works well with tube amps. (Vol.15 No.12)

K

Straight Wire Virtuoso and Concerto, Kimber Black Pearl, WireWorld GEI.

Digital Data Interconnects

Editor's Note: Extensive auditioning by RH suggests that all the coaxial data cables listed below are better than conventional, TosLink-fitted, plastic fiber optic cables, which in general don't give as tight a bass or as focused a soundstage (see the introduction to "Digital processors"). "You don't get that essential sharpness of image outlines, the sound becomes more homogenized," quoth he, which is why we no longer recommend any TosLink interconnects. JA points out that the specific character of any particular cable will depend heavily on the transport and processor it connects.

Apogee Electronics Wyde-Eye AES/EBU datalink: \$51.90/0.5m; \$57.90/1m; \$63.90/2m; \$73.90/3m; \$87.90/5m \$115.90/10m \$\$\$ ☆

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says Jon Valin, of *FI* magazine

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Jon Valin, *Fi* magazine, July, 1998

"...the MG1.6's left an indelible impression and join Maggies own 3.5's...as the steals of the speaker world."

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Myles Astor, Editor, *Ultimate Audio*, Jan./ Feb., 1998

"At an unbelievable \$1475 the pair, this one is going to knock 'em dead."

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Harry Pearson, *The Absolute Sound*, July/ Aug., 1998

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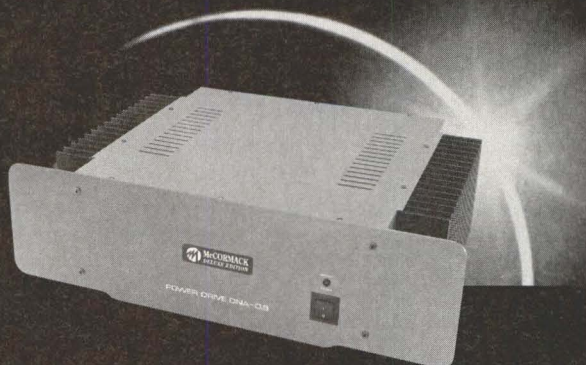
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Writing about the Budget Component of 1996, the critics said, "The McCormack DNA-0.5 Deluxe Edition amplifier [\$1565] offers performance that rivals much more costly competition – in fact, the McCormack came in second to the [\$35,000] Krell Audio Standard in the running for Amplification Component 1996.

"That puts it in pretty exalted company, but our respondents were unequivocal in their enthusiasm, lauding the McCormack's palpability, crisp transients, punchy percussiveness, and effortless sense of detail. [Sam Tellig] called it 'one of the best amplifiers period.' And that's without factoring in 'bank for the buck.'"

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you're missing out!" expostulates LL, adding that it's "more transparent, more musically honest than any I've heard—and it's ridiculously cheap!" (In bulk, the cable costs around 75 cents a foot.) JA is also impressed. KR, however, while agreeing that it is an excellent value, notes that it is less transparent-sounding than the (much more expensive) Illuminations. Also available for the same price in a 75 ohm version for S/PDIF applications, using Canare's true 75 ohm RCAs. But don't confuse digital company Apogee Electronics with loudspeaker manufacturer Apogee Acoustics. (NR)

AudioQuest (AudioQuest) OptiLink Pro 2: \$325/1m with AT&T-ST termination ☆

Expensive ST datalink that JA and JE recommend highly. Excellent bass performance, with power, clarity, and dynamic contrast, says JE. A more rich sound than the Altiis ST link. ST terminations can be fragile, adds JA. (Vol.16 No.11)

AudioQuest Digital 2 AES/EBU: \$225/1m with AudioQuest XLR plugs

AES/EBU cable using silver-coated long-grain copper that JA feels is a contender. Open-sounding and spacious when used between Levinson No.31.5 and '30.5, he found. (NR)

Aural Symphonics Optimism: \$740/2m

ST-optical datalink. Outdoes the previous version in "smoothness, sweetness, quietness, and largesse of soundstage," says JS. Highly recommended, with the proviso that it be used with Aural Symphonics' ioGEL. Canare DigiFlex Gold I 75 ohm cable: \$45.95/3ft \$\$\$ ☆

Before you try any of the expensive coaxial links, you should try this inexpensive, true 75 ohm cable, advises CG, who rates it as his first choice in a digital cable at any price, even preferring it to the Kimber AGDL. (Vol.16 No.7)

Cardas AES/EBU: \$230/1m

Ultrafast-sounding, affordable datalink that bested all comers (other than the Orchid) in SD's system as of spring '96. (NR)

Illuminations D-60 DataFlex Studio

S/PDIF datalink: \$225/1m plus \$40 RCA or BNC termination \$\$\$

It's hard to get *Stereophile* writers to agree on anything, but RH, RD, JS, KR, LB, RR, and WP all use this, originally called Illuminati D-60, as their reference. "Sometimes mercilessly revealing," KR maintains, "but never harsh." "Fast, open, and detailed," raved JS. "Focused and nuanced," concurs WP. "Smooth yet highly detailed, spacious soundstage, and lack of hardness and edge," says RH. (Vol.19 No.5)

Illuminations DV-75 digital interconnect

S/PDIF: \$125/1m, plus \$40 for RCA or BNC termination

It should probably be numbered the VR-45, as it fits between Illumination's universal reference D-60 and the budget-minded D-30, but VR-75 it is. LB finds that it gives, in his system, performance on a par with the D-60 for a fraction of the price. (NR)

Illuminations Orchid AES/EBU datalink:

\$480/1m plus \$40 XLR termination

Expensive, but the best AES/EBU link JA has used. JS loved the Orchid's midrange liquidity and detail, but preferred Illumination's S/PDIF cable overall. SD (almost) doesn't equivocate: "Probably the best out there for now.... A stunner!" RH and RD are also fans. New lower price usefully brings this cable in reach of more music lovers. (Vol.19 No.5)

Kimber AGDL DigitalLink:

\$195/1m with RCA or XLR termination ☆

Best coaxial datalink ST had tried until he heard the expensive Goldmund. JE found it to excel in the retrieval of detail, while it also featured an extended and powerful bass. (Vol.15 Nos.2 & 6; see also CG's HAVE/Canare review in Vol.16 No.7)

Madrigal MDC-1: \$285/1m ☆

Excellent soundstaging and image focus, reported JE, when this AES/EBU datalink was used between the Mark Levinson Nos.30 and 31, as well as an open-sounding, extended treble. JA concurs, feeling that the

Madrigal is only bettered by the Illuminations Orchid and AudioQuest Digital Two AES/EBU cables. (Vol.16 No.11)

Marigo Apparition Reference Series 3A: \$595/1m

This digital cable, which has become less stiff and easier to work with in its last several iterations, is a JS favorite. "Air, air, and more air!" he shouts, adding that the midrange is as good as digital gets. "Delivers the signature Marigo enormity of soundstage, coupled with tremendous bloom." (NR)

MIT Digital Reference: \$325/1m, \$395/2m

"Said to reduce reflections in the cable and thus reduce jitter," sayeth RH, who listened to this RCA-fitted S/PDIF cable in the context of his full Spectral/Avalon/MIT 2C3D system review. Given the plethora of references to high resolution, transparency, and spectacular soundstaging in that review, it seems to pass the signal along with minimal degradation. (Vol.19 No.1)

Synergistic Research Designer's Reference:

\$1000/1m, \$1500/1.5m

The AES/EBU terminated version of this datalink "reigned supreme over all other AES/EBUs" JS has tried. "Bass was tight and controlled.... the midrange was colorful, textured, and graciously harmonic on many recordings"—although perhaps not as open-sounding as the best S/PDIF cables he has heard. "The BNC coax proved a first-class performer, more revealing than the trick AES/EBU version (which nonetheless showed deft charm on less-than-stellar recordings)." (Vol.21 No.1)

TARA Labs The One: \$895/1m

One of JS's two reference digital datalink. (Vol.21 No.8)

TARA Labs RSC® "Decade" Digital: \$395/1m, RCA or BNC terminations, \$413/1m with XLRs

According to JS, the Decade digital datalink "delivered a coherent, wide-band, neutral, yet fully harmonic presentation that showed a light and quick touch with transients and dynamics." A little less robust-sounding than Illumination D-60, he states. AES/EBU version evinces similar sound. (Vol.19 No.12)

TARA Labs RSC® "Master" Digital Generation 2: \$295/1m, RCA or BNC terminations, \$313/1m with XLRs ☆

Very stiff and awkward to handle, notes RD, but it does sound exceptionally transparent, especially in AES/EBU form between his PS Audio transport and processor. RH also recommends it highly. Current "Master" version is less stiff than its predecessor. (NR)

XLO Limited Edition: \$1100/m terminated

JS's other new reference. "It never sounded over-analytical or left me cold—musically or emotionally." (Vol.21 No.8)

XLO Signature Type 4.1 AES/EBU datalink:

\$325/1m, \$250 each additional meter

"At its best, well mated and happy, the 4.1 can knock your socks off," JS exclaimed. However, in his opinion, digital datalinks are extremely dependent upon component interactions; careful audition with the precise elements comprising your system is essential when evaluating them. (Vol.18 No.9)

Yamamura Millennium 6000: \$525/1m

MF's reference. See "Interconnects." (NR)

Deletions

The Mod Squad WonderLink Digital I over doubts about availability; Parasound DataBridge discontinued.

handles double-ported bandpass enclosures and can calculate the effects of LF room gain, enclosure leakage, and absorption losses in sealed-box, vented-box, passive-radiator, and bandpass systems. Thiele-Small parameters can be calculated from two impedance measurements, and data can be imported from the IMP PC-based measurement system. Standard 1.40 version costs \$69.95. Available from Old Colony Sound Lab, P.O. Box 243, Peterborough, NH 03458. Tel: (603) 924-6526. Fax: (603) 924-9467. (Vol.13 No.11)

ETF 4.1 room-response software: \$199.95

KR says, "This Windows 95 program is the most cost-effective and critical way to assess your room and system acoustics and monitor your adjustments to them. Unlike modeling programs, ETF actually measures room responses and modes, and is an essential tool for users of equalization and correction systems." JS and SD concur. (Vol.21 No.7)

LEAP 4.6 Loudspeaker Enclosure Analysis

Program: \$395-\$1195 ☆

Highly recommended by DO and much used by professional designers, LEAP imports raw drive-unit data (it accepts Audio Precision and MLSSA files as well as data produced by Audio Technology's own LMS system) and optimizes a speaker system's crossover network to meet the user's target specifications, either on- or off-axis. (It also averages responses to give a speaker's power response.) The fully loaded LEAP 4.5, which includes a SPICE-type passive network analyzer and an Active Filter Library, costs \$1195; a basic version costs \$395, to which modular upgrades can be made for \$175 each. Available from LinearX Systems, Inc., 9500 SW Tualatin-Sherwood Road, Tualatin, OR 97062. Tel: (503) 612-9565. Fax: (503) 612-9344. Web: www.lin earx.com. (Vol.13 No.11)

The Listening Room: \$47.50 ☆

Inexpensive but excellent computer program for PCs and Macs. Available from KB Acoustics, P.O. Box 50206, Eugene, OR 97405. Tel: (541) 935-7022. Allows an audiophile to move simulated loudspeakers and a simulated listening seat around a simulation of his or her room (in three dimensions) to find the position that gives optimal performance below 200Hz or so. The suggestions made by TJN in his review have been incorporated in the latest version, which can also store different setups as separate files. Upgrades are available for \$15 including S&H. The Macintosh version (\$67.50) requires 1Mb RAM and allows local optimization of listener and/or speaker positions. It also models the woofer's LF limit and slope. The Windows version (\$89.50) is called "Visual Ears"—see "Industry Update" in Vol.19 No.4 and "Fine Tunes" in Vol.21 No.8. (Vol.13 No.12)

The Complete Guide to High-End Audio:

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Written by erstwhile *Stereophile* writer Robert Harley, *The Complete Guide to High-End Audio* offers explanations of how to listen critically, how to optimally set up your system, and how to get the best sound for your buck. It will also give you the background and technical information you'll need to get the most from reading *Stereophile*. Beginning audiophiles must read the appendices first. Hardcover edition costs \$39.95 plus \$4.95 S&H. Second edition to be published this fall. Available from Acapella Publishing, P.O. Box 80805, Albuquerque, NM 87198-0805. Tel: (800) 848-5099. (Vol.18 No.3)

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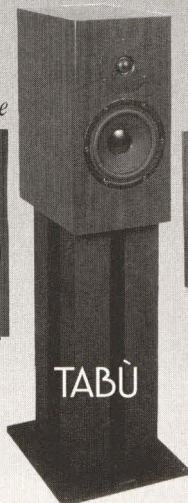
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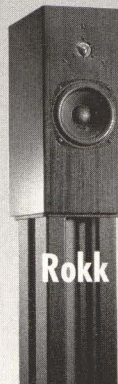
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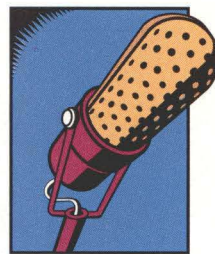
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John Lurie

"A AAAHHH —!"

Uh-oh — John Lurie was plenty mad about something. I'd just walked into his downtown Manhattan apartment to find him practically fuming.

"Here! Listen to this! We mastered this CD at Sterling Sound, and it was all done, except we changed the fade-up. Then they sent it out to the manufacturer in the UK. This thing should have been theoretically exactly the same except for the fade-up, but there's three times more hiss on it! So now we've manufactured, like, *six thousand* CDs that have all this hiss on them."

John Lurie is a man who wears a lot of hats: He's a saxophone player and leader of the funky avant-jazz band the Lounge Lizards. He's a movie star whose lead-role films include *Stranger Than Paradise* and *Down By Law*, both directed by Jim Jarmusch. He composes film scores, with a Grammy nomination for *Get Shorty*. He has his own TV show, *Fishing with John*, in which he travels the globe with the likes of Tom Waits or Dennis

Hopper in search of adventure. He's a music producer, a painter, director, writer, and — now that he's started *Strange and Beautiful Music* — he's the sometimes unwilling head of a record label.

"I'm just having a nightmare of a time. I love the way the DATs sound, right? Then you go to master, and it sounds a little crispier, a little harder. Then they go to manufacture, and it sounds harder still, and then suddenly there's all this extra hiss on it. I'm so sick of this record by now. I have to do this over and over and over and over. All these engineers, they say it sounds exactly the same. I'll say, look — \$100,000, you blindfold me, I will tell you which is which. And then they go, 'Well, there's your exactly the same, and there's our exactly the same. *Our* exactly the same is industry standard.' No. In the philosophy of life, exactly the same means exactly the same."

"So much for 'Perfect Sound Forever.'"

"And they don't want to hear it. We

went out to Allied to look into it, and there are these two guys in this room, like the size of my bathroom, and they have this shitty system. I said, 'I can't hear anything on this! Why don't we just go to a supermarket, 'cause they'll have better sound there!' It was really insane."

"This is a nightmare."

"And the thing is, nobody ever listens. They're just more relying on their machines. The last record, we did a goosebump test with it. One song, 'Three Crowns of Wood,' had this intro on it, and I messed something up. My brother heard the take with the not-as-good intro, say take 5, and then when the band came in, he got goosebumps, right? But we wanted to use take 6, and put the intro on it, so we did the edit, and we took him out of the room, and we brought him back in... he still got the goosebumps. So it has nothing to do with ones and zeros, and it has nothing to do with meters or graphs. It's the goosebump test. That's the whole thing."



LURIE PHOTOS COURTESY JACARTE PRODUCTIONS

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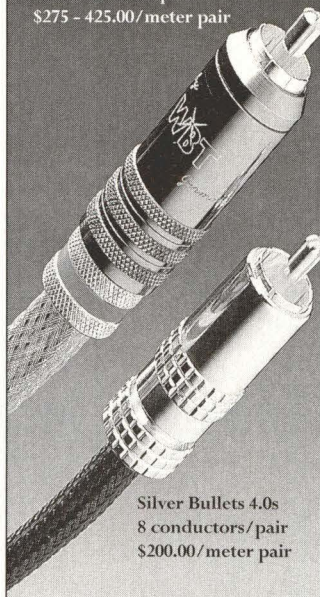


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"I guess I don't have to ask if you care about the way things sound."

"Of course I do. I'm constantly comparing. I think the artist has a responsibility to take it this far... which is a drag. It means that you can do much less real creative work, but I think you've got to see it through right to the end. A lot of people think I'm nuts. You know?"

"You mean as far as..."

"As far as following the mastering and the manufacturing and all the stages in between. You have to do it. And now I've just started this record company—or not a record company, a CD company—and I don't know if CDs are something I believe in. And I can't stand spending the time on it. It's *these* things that cost a fortune. I mean, how in the hell did this happen? Something's supposed to be exactly the same, and it's got three times more hiss on it."

"I guess you'll just have to start your own mastering company now, too."

"Ohhhhh... it's crossed my mind."
[laughs]

We listened to a couple of tracks from a non-hiss-enhanced version of Queen of All Ears, the latest Lounge Lizards record.

"Have you seen the band live, Rick?"

"Uh-huh. Last winter, and then a long time ago—'81, maybe?"

"Was it bad?"

"To tell you the truth, John, I didn't like it so much back then. You guys seemed kind of... self-conscious and ironic. But I guess you were ahead of your time, because that's where everybody else is now."

"We were cowards, in a way. We were afraid to do anything beautiful. We were wise guys and we were basically punks."

The Lounge Lizards have come a long way. If you never liked their music before, Queen of All Ears is worth seeking out. It's got the organic

feeling of in-the-moment jazz from players who haven't jumped on the retro bandwagon, and a mix of styles that seems refreshingly unconscious next to the formulaic piling-on of musical trends so common in what's popular these days.

"Does making a recording limit the communication of the musicians, the spontaneity and stuff?"

"The big thing I found is you don't feel it. You don't feel the drums coming

On stage, there's
that roar. Sometimes
it's almost a Kundalini
kind of experience.
The band is flying
and you're playing,
and it's just like,
"This is exactly where
I want to be... I want
all life to be like this."

through the floor. You don't feel the bass. It's just the ears. I played with the Chili Peppers a few times, and standing in front of the monitors and playing the saxophone, and the bass... frankly, my pants were—for real—were flapping. [laughs] On stage, there's that roar. Sometimes it's almost a Kundalini kind of experience. The band is flying and you're playing, and it's just like, 'This is exactly where I want to be... I want all life to be like this.' You know? It's better than coming, it's better than

drugs, it's better than anything you can imagine. And I've never really had that in a recording studio."

"How about doing live recordings?"

"We did some in the pre-Calvin era. Calvin's the drummer. He has the monitor so loud that, no matter what happens on the record, basically this tone that I've spent 30 years developing will be the tone coming out of Calvin's monitors, because he won't wear headphones. I actually want to hear this thing we did recently where it sounded like the DAT was good. I'd like to record every gig. I'll bet pretty soon there will be a way to do this..."

"There are some pretty amazing tools for field recording right now, like the Nagra-D open-reel digital machine. It can really give you master-tape quality. It's not cheap, but it's —"

"How much do those machines cost?"

"About 15–30 grand."

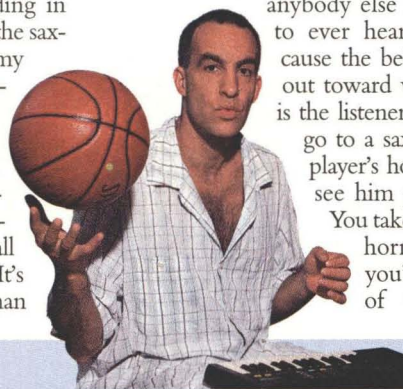
"Yeah, but a record costs 100 grand."

"You can carry it over your shoulder. Stereophile puts out some beautiful classical recordings, like in a church with just a couple of mikes and a Nagra-D. I'll send you some. So is hearing music live the real reference?"

"You know what's funny about being a saxophone player? You are developing this tone, and you hear it differently than

anybody else is going to ever hear it, because the bell comes out toward whoever is the listener. So you go to a saxophone player's house and see him practice.

You take out the horn, and you're kind of walking



A John Lurie Discography

Fishing with John (soundtrack), Strange and Beautiful Music SB-0014

African Swim/Manny & Lo (soundtracks), Strange and Beautiful Music SB-0016

Excess Baggage (soundtrack), Prophecy Entertainment PRO 15010

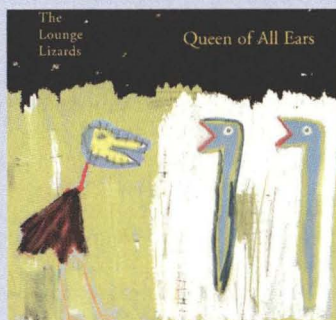
Get Shorty, soundtrack (Grammy nominee), Antilles/Verve 314 529 310-2

Men with Sticks, John Lurie National Orchestra, Crammed Disc/Made to Measure VACM 1005

Mystery Train (soundtrack), Milan 35683-2

Down By Law/Variety (soundtracks), Strange and Beautiful Music SB-0011

Stranger Than Paradise/The Resurrection of Albert Ayler (soundtracks), Strange and Beautiful Music SB-0010



with The Lounge Lizards

Queen of All Ears, Strange and Beautiful Music SB-0015

Live in Berlin 1991, Vols. 1 & 2, Intuition INT-2055

No Pain for Cakes, Antilles 510 090-2

Voice of Chunk, Strange and Beautiful Music SB-0012

Big Heart: Live in Tokyo, Antilles 510 089-2

ROIR Sessions: Live '79/'81, Reach Out International A-136

Live from The Drunken Boat, Europa [no catalog number listed]

The Lounge Lizards, Caroline Records CD 1561

around like this, see? [laughs] And let's say I'm playing my scales, and I end up almost invariably right here with my forehead up against the wall. You know, because you get the sound bouncing back to you. And you don't even know you're doing it. It's really a funny thing. But when I record, what I really want is how it sounds to me. I don't really want how it sounds. So then invariably, with an album that I care how it sounds, I will try to enhance it, to change the EQ to make it sound like what I think it sounds like—but that's false, in a way, right? So I don't know what the answer is with that.

"I'll tell you something, I did that *Night Music*—that David Sanborne show? I never had liked his playing, and I was hoping to dislike him. He was the sweetest guy. [laughs] He was so generous with everything, and so kind and helpful and... But not only this—his sound... he's got this gigantic, fat, warm, beautiful, sexy sound. He's got this big sound!"

"Noooo..."

"But he is nuts! He does not want to share his frequency. He wants to have his own band of sound, not to be confused with the guitar or the piano or anything close. He has the engineer basically take all the mids and lows off, leaving that high shrill sound that you hear on the record. Isn't that insane? That is insane to me! [laughs] He's a really good, big, warm player. I couldn't believe it."

"That is amazing. When you make a record, how does it change from where you hear it in your head, to where you play it, to when it's recorded, to when it comes out on a disc?"

"Oh, my God... I mean, the best ideas—it's kind of like it's a prayer. It's not even like it's your idea. The really best ideas—and this sounds corny or weird—they kind of pass through me. So you have that moment. Then you on your own have to re-create that moment. Then you have to somehow notate it. Write it down. Record it. Something. Then you bring it to the band. Already it becomes kind of the lowest common denominator, but sometimes the band will add to it and make it more. But then you do it live, and sometimes... the first few times you play a tune it can be... and then it starts to lose its... you know..."

RICK ROSEN



RICK ROSEN



Top: The cornerstone of the working musician's system is a good, solid, professional DAT deck, like the Panasonic SV-3700. Bottom: The Luxman LV-100 integrated has been Lurie's reference for years. He doesn't get a lot of time to listen recreationally, though he admits he might be ready for a really great system.

and then you record it... I mean, it's just like it's going further and further away from God. It's becoming more and more mundane, and by the time it's in the stores, you've made a bigger blasphemy than you know."

"There's not much alternative, is there?"

"I don't know. I had a lot of horrible problems back in, like, '92 for a few years, where everything I had done was in big legal messes all over the place. Really horrible. And I felt like the answer was that God didn't want me to make anything out of plastic. Because it kind of takes you out of what's in the air right now. I still don't know, really, the answer. You've got this gift and it's your responsibility to see it through the best you can, and to get it out into the world. I'm really conflicted about this. Very conflicted. I think these are thoughts only 17-year-olds are supposed to have. [laughs] But I'm still bothered by all of this."

"Well, think about some really old recording, of someone who was maybe around before your time."

"Well, Coltrane for example. I mean, it really changed me."

"If you haven't seen Coltrane live, all

you've got is that recording. Thirty or 50 years from now, if everything you did was only just out there in the air, and you never actually put anything down on plastic..."

"I don't know, Rick. Take that Coke commercial, where they had Humphrey Bogart in it, and James Cagney. What is that!? How do they have the right to do that? Then there's this whole tribal thing about being photographed or recorded, and it takes part of your soul? I don't know if they're right or wrong about that. I really don't."

"Let's listen to some of these recordings."

Lurie played some of the discs he might listen to in his spare time, if he had any. We hear Ali Farka Touré's The River, Astor Piazzola's Tango: Zero Hour (an excellent second-date record, sez John), and John Coltrane & Johnny Hartman. It was a typical working musician's system—Yamaha CDC-645 player and K-222 cassette, Panasonic SV-3700 professional DAT, Luxman LV-100 integrated amplifier, and some kind of B&W bookshelf speakers—crammed into a bookshelf, oddly

enough. The sound was nothing to write home about, but sonics were made up for by the music. Particularly when the fi turned even lower, and Lurie put in a tape of Gnawa music, which he picked up while shooting The Last Temptation of Christ in Morocco.

"This is great shit. For a year and a half, all I listened to was this and some copies of some tapes of Pygmies that a friend of Jarmusch's had made."

"Do you like this sound?"

"Well, I only listen to stuff that sounds good. To me, that Gnawa tape sounds good in a way. I mean, if something translates through on that—I don't even notice any of the hiss on this tape, like I do on my own. In the end it's just what it does for you. I'm always looking for that thing to hit me. I'm always looking for the goosebumps."

"Most musicians really do have the worst systems. You're not exactly an exception..."

"Cause most musicians don't listen to stuff. When you're starting to learn how to play, you listen. And then there's so much just kind of clanking around inside my head that I don't dare listen to anything else. [laughs] I don't dare have any new ideas, because it's going to lead to so

much more business, basically." [laughs]

"What would you look for in the perfect stereo system? Something that sounds more like live music, or more emotional, or something that sounds most like the recording?"

"I think you want to have a sound that you can live in, that creates a world and you can really step inside that world. I used to have this old Sidney Bechet thing. You could just *live* in that sound. It was so comfortable and warm. I don't have that record anymore. That's the other thing—what happens to records? Where do they go? Are they on the other side...? They're like the socks that disappear in the dryer."

"So do you listen to LPs still?"

"Not any more. My turntable broke, and then I didn't get another one. I remember how LPs sounded. The first time I listened to *Sergeant Pepper*—you know how it jumps eight feet from the speakers and ends up in the middle of the room? But I've got a lot of big questions about vinyl, too. I don't know if vinyl is the answer."

"Don't you think that your life would be improved by, or that you would enjoy, a really good system?"

"Should I get something really great?"

"I think so."

"Well, I've got to replace that thing. That thing's hopeless. [laughs] But it's kind of working, so I'll keep it just 'til I get through this phase of having to listen to all these CDs and make these choices."

When I finished mixing the *Queen of all Ears* record, I had this DAT with a sequence from the studio. I played it for six or seven people. Three of the first six people wept at one point Since it's been a CD, I don't think it has that same . . .

"But if you're gonna have a good system, you gotta do stuff like put the speakers on stands, which means it would, like, cut off a bunch of space in the room—some of the things that make people

think audiophiles are incredibly anal."

"This stuff is important. I mean, it's *really* important. It's about the whole quality of life, you know. I don't see what's anal about it. To me, here's the deal—and this is true. When I finished mixing this *Queen of All Ears* record, I had this DAT with a sequence from the studio. I played it for maybe six or seven people. Two were these guys who I played basketball with, and these were tough guys. Three of the first six people wept at one point . . . for real, wept. I left one guy alone, and he was listening to it. I said, 'This is what I've been working on.' I come back into the room and tears are str—

"Since it's been a CD, I don't think it has that same . . . I mean, there's something religious in there that maybe ones and zeros destroy. I guess some people are anal about sound, but to me, it's got to be moving. It's like the difference between hearing Martin Luther King speak or hearing Jesse Jackson read a Martin Luther King speech. The two are very different things. But it's just like any fucking guy at any mastering place or any manufacturing place is going to say, 'I don't hear the difference in that.' Yes, but if your soul is big enough, you do hear the difference." ❧

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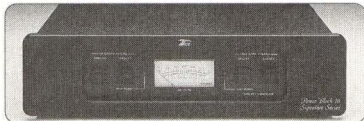
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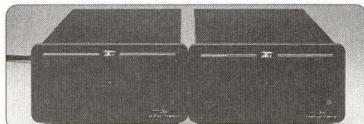
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The Sweetfish Saga

Rees Shad tries to strike the balance between musician and label owner

Robert Baird



Outside the open glass-and-steel garage doors that form the club's front wall, an annoying mob of *Wild Bunch* wannabes sit on their motorcycles, grimacing and revving their engines deliberately until all conversation stops. Inside the club a chorus of waiters, waitresses, and bartenders lean on the bar, occasionally sneaking out for a smoke, but mostly looking bored and tipsy.

It's a Wednesday night in Pittsburgh's Rosebud club: the headliner's canceled, and the opener, Rees Shad, is up on stage singing and playing his guts out. Shad's new album, *The Riggle Road Stories*, got zero radio support, so including my sister and me, the audience numbers fewer than 10. (It helps that two of the eight are music writers.) These few hands give all the applause Shad gets on his first visit to the forks of the Ohio, but he'll be back in two weeks. Hopefully, by then the crowd will have grown. Chalk it up to building an audience.

"Building," in fact, is the key word in the Shad saga. Fifteen years ago, after a brush with major-label fame went awry, the Manhattan-raised singer/songwriter/guitarist decided to give up playing, buy a farm near the upstate New York town of Argyle, and become a recording engineer. He built a recording studio in the barn and began waxing discs for local



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acts. When it came time to name his fledgling studio, he chose his high-school nickname, "Sweetfish"—which, according to the man himself, came from the equation of "Rees like the candy, plus *shad* like the fish."

After founding Sweetfish Recording Studios, Shad regained his confidence as a player and began to write and record his own songs again. In need of a publishing company, he formed his own, named—you guessed it—Sweetfish Music. Despite the fact that his solo debut album, *Anderson, Ohio*, was a hit with major label A&R reps, no one would take a chance and sign him. Consequently, he decided to launch his own label: Sweetfish Records. The last pillar in Shad's growing concern is Sweetfish Interactive, which provides material to enhance his label's CDs.

So how does a guy who's still an artist at heart balance those thoughts and desires with the very different concerns—more money, less art—of a record exec?

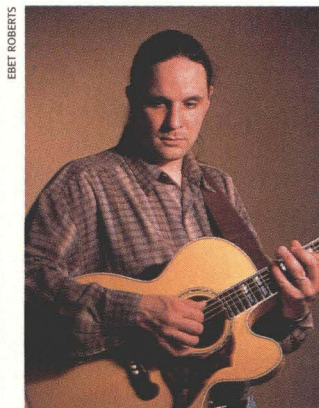
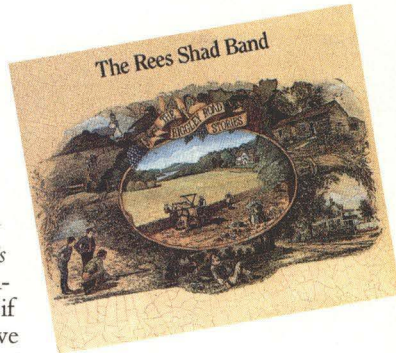
"It's a very difficult thing wearing all these hats," Shad says from his office in the steeple of a mid-19th-century Presbyterian church he's recently purchased to help house his growing operations. "I constantly wrestle with the sins of being a corporate guy. I think I still behave like I normally do, but half the people I meet now have their hand out. I now know how all those A&R guys I used to hound feel—I want you to listen to this, I want you to listen to that, I want a distribution deal, I want a record deal..."

Shad is well aware that the only business with a higher mortality rate than those of restaurants and live music clubs is independent record labels, particularly those run by (ahem!) artists. I shake my head and try to suppress one of those marveling "I guess you like pain, then" smiles, but he preempts my skepticism.

"I know, I know—wanna lose all your money and go crazy? Open an indie label."

So far, however, Shad has been adept at stacking the deck in his own favor. In 1997, an event occurred that shot Sweetfish Records from obscurity to instant and—he hopes—enduring visibility. Through Don Griffin, a promoter Shad had known in Albany, New York, he was able to buy into, lease, and release *All the King's Men* (SFR 0002-2), a new all-star project featuring guitarist Scotty Moore and drummer D.J. Fontana, both members of Elvis Presley's original quartet, and an impressive slate of guest artists: Keith Richards, the Mavericks, the Bodeans, Joe Ely, Cheap Trick, Steve Earle, Ron Wood, Jeff Beck, and others. Recorded at a handful of

Nashville studios and produced by Moore, Heartbreaker Stan Lynch, and ex-E-Street-band-bassist-turned-producer Gary Tallent, *All the King's Men* is the kind of high-profile project that few, if any, indie labels have ever been lucky or smart enough to debut with. Winning a Grammy nomination in the Best Country Instrumental category didn't hurt either.



EBET ROBERTS

**"I know, I know
— wanna lose
all your money
and go crazy?
Open an
indie label."**

The release of *All the King's Men* took both the media and the music business by surprise. Suddenly Shad was being invited to dinner with label honchos. He signed a distribution deal with major indie distributor ADA (Alternative Distribution Alliance), and his studio has begun to see a different class of clientele. In the past two years the all-analog Sweetfish Studios, which was rebuilt four years ago using mostly tube gear, has been used for recordings by Puff Daddy, Shania Twain, Joan Osborne, the Flaming Lips, Mercury Rev, and a slate of international acts from as far away as Russia and the Philippines.

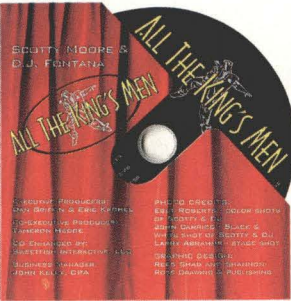
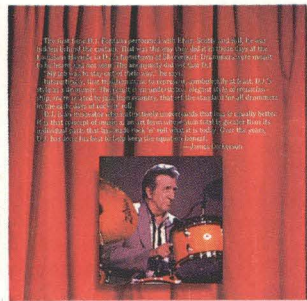
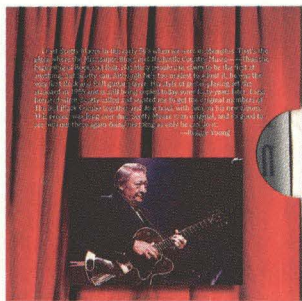
For its second project by an outside artist, Sweetfish stayed with the Memphis vibe and signed early rock pioneer Paul Burlison. The original guitarist in the Burnette Brothers' Rock'n'Roll Trio as well as in Howlin' Wolf's band, Burlison retired from music before ever reaching fame. On his Sweetfish come-back disc, *Train Kept A'Rollin'* (SFR 0003-2), named for the Burnette Bros.' biggest hit, he, too, is joined by an all-star cast: sons of the original Burnettes, Billy and Rocky, Rick Danko and Levon Helm of the Band, David Hidalgo and Cesar Rosas of Los Lobos, Mavis Staples, and others.

The two other Sweetfish signings so far are Nashville alternative band Love Circle Logic and singer/songwriter Victor Mecsnyne. Shad says he's got his eye on several new acts he'd like to sign on, though it's too soon to talk about them.

In the midst of all this activity Shad has somehow found the time to raise two children, Dylan and Lillian, with his wife of 13 years, Pam, and continue his own recording career. *Anderson, Ohio* (1995, Sweetfish SFR 0001-2), inspired by Sherwood Anderson's seminal American novel,

Winesburg, Ohio, showed perhaps the most surprising side of the Shad story: in his many ambitions and businesses, Shad is not compensating for any failure as an artist. Filled with memorable songs and gifted singing, *Anderson* is a very strong debut.

Shad's latest disc, *The Riggle Road Stories* (SFR-



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May 11-16, 1999

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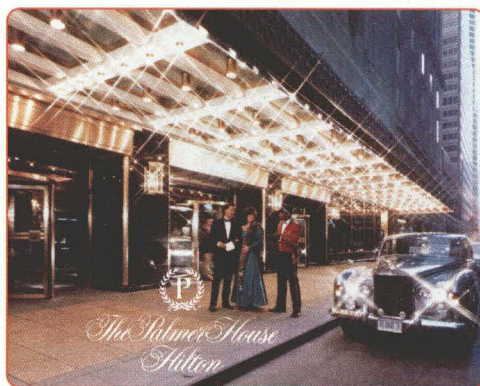
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0005-2), released on Sweetfish in July, looks at first glance like the kind of scary, self-important "concept record" you want to run from as fast as you can. I mean, check out that title.

Shad grins his very genuine, slightly mischievous grin when I mention my fear of concept albums.

"In some ways this album is one long song, but that isn't overriding—there are lots of little pop moments, lots of little adult contemporary moments. It tells the story of why this man is a ghost as he wanders around, discovers his past, and comes back home. It's also about how you can't let things pass you by, but also how you have to know when to let go—know when to pursue your dreams and when to let go. Dreaming big—that's what my life has been about."

And, true to such big dreams, *The Riggley Road Stories* is a quantum leap forward from *Anderson, Ohio*. Songs, lyrics, playing—are all improved. The new disc is a beguiling collection of tunes: some soft, with just guitar and voice; others edgier, with drums and electric guitars. While every song is part of the overall story, each can also stand alone as a folky single. And even if tunes like "Envy of Red Tail," "Wash Away," and "I Don't Venture Out" are not quite on the level of Gillian Welch, Greg Brown, or today's other top-shelf singer/songwriters,

EBET ROBERTS



**"If we don't go
over the edge
a little bit
and get funky,
people won't
remember us."**

they are very close by.

In addition to his other interests, Shad is also the label's art director, a hat he loves to wear. Like all Sweetfish records, *Riggley Road* is both gorgeously and elaborately packaged and multimedia enhanced. There's even a comic-book-styled publication done by a local artist and released at the same time as the disc that further expands the themes found on the record.

"This summer we were featured in an L.L. Bean ad in the *Wall Street Journal* because we bought these jackets from L.L. Bean and put the Sweetfish logo on them. It's like the book and packaging for *Riggley Road Stories*. If we don't go over the edge a little bit and get funky, people won't remember us."

Now that—thanks to *All the King's Men* and his own records—people are beginning to remember him, to connect his face and name with his growing mini-empire, Rees Shad knows that wearing as many hats as he does makes people suspicious. Record-label suits eye him warily because

he's an "artist." Other musicians grumble because he owns a label and is "in the business." It's the kind of confusion that Shad, who despite it all has remained a "sweet" guy, has learned to live with—the price, he says, of wanting it all.

"No matter what, you're damned. People are turned off by success or lack of success. You can't win." ☒

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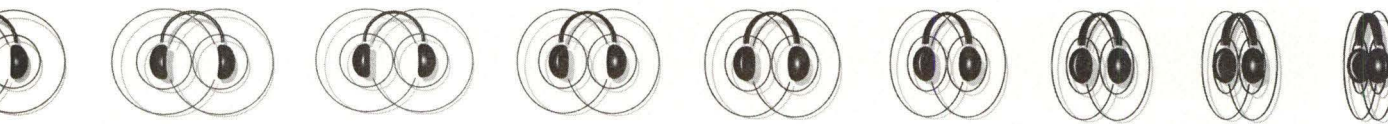
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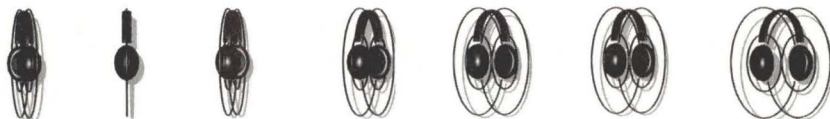
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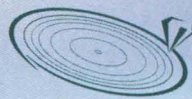
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FROM THE KREMLIN TO THE KIROV

ONE OF THE BENEFITS OF
RUSSIA'S FLEDGLING FREEDOMS
IS A FLOOD OF NEW OPERAS

SARAH BRYAN MILLER

The demise of the Soviet empire has accomplished many things, among them liberating the Balts, closing the steel door of the gulag forever, and unleashing a vast tide of *matryoshka* dolls and lacquered boxes upon Russia's erstwhile enemies. The new freedoms of trade, ideas, and people have been unmitigated good news for music lovers in the West: the last few years have brought a wealth of Eastern-bloc performers' art to lands that boast hard currency and a flood of recordings of both rare and familiar Russian music, vocal and instrumental.

Opera lovers are among the chief beneficiaries of this outpouring. Along with individual operas from EMI and London, there are now significant collections of new and remastered recordings of operas, both familiar and otherwise, appearing from Philips, BMG, and Harmonia Mundi.

The influx can be credited to a combination of pent-up demand, novelty, availability, and improved quality—and great music that is worthy of a hearing in idiomatic versions. “The Bolshoi Theater is an institution in Russian musical life, but these recordings were never released in the West in proper quality,” said Niels Hostrup, manager of product development in BMG's Munich office, and overseer of the Melodiya project, which began in 1994. “There was also a problem with the packaging, which was poor; they didn't have libretti. Now we've packaged them like new, full-priced CDs, and we are getting a very good reaction, both in the press and commercially.”

At Philips, there was the additional incentive of having, in Valéry Gergiev, an outstanding conductor with a strong group of singers at the Kirov. “There is a great hunger in the West for ‘new’ repertoire rather than the umpteenth recording of the standard repertoire,” noted Costa Pilavichi, vice president for artists and repertoire at Philips. “The operas themselves are magnificent; they just needed to be performed, recorded, broadcast, and telecast at the right time, with the right artists, and in high-quality audio and video recordings.”

The main contenders in this contest are BMG/Melodiya's reissued recordings from the Bolshoi and Philips' new ones from the Kirov; several of the latter are also available on

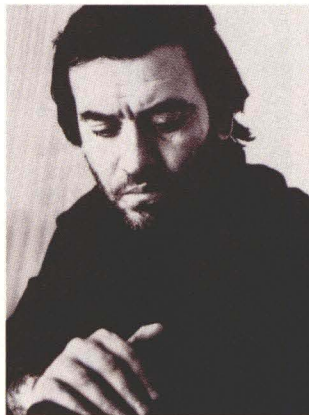
video. Both series are handsomely packaged—the Kirov recordings in bright blue boxes with production photos on the front, those from the Bolshoi in dark green with traditional-style Russian artwork generally unconnected to the stories—and each offers an interesting sampling of the variety of Russian music drama. (The Harmonia Mundi boxes suffer, in contrast, from an artistic style unhappily reminiscent of Soviet realism.)

The Philips sets benefit greatly from being recently recorded with modern technology. Although the Melodiya recordings (three from the 1960s, one from 1979, and one

from 1982) have just been remastered using 20-bit processing, whenever the chorus sings too lustily the sound is apt to go *splat*; there are limits to how much cleanup can be done to the products of old-style Soviet engineering. Still, there is a full-throated Russianness to them—a march-to-the-footlights-and-roar aspect largely untainted by postwar Western operatic innovations—that is visceral and thrilling, if totally lacking in subtlety, and that often overcomes the technological limitations.

The performances are strong in both sets. The Kirov's offerings enjoy the unifying vision of

Gergiev in all of its recordings, along with contemporary scholarship; the Bolshoi's forces are led by four different men, most notably Alexander Melik-Pashayev. (Philips also has a strong *Eugene Onegin* conducted by Semyon Bychkov, with a mostly Russian cast headed by Dmitri Hvorostovsky.) On Melodiya, one may hear singers like Yelena Obraztsova, Vladimir Atlantov, and Galina Vishnevskaya in their prime. Gergiev's stable includes stars now heard often in Western repertoire: mezzo-soprano Olga Borodina, soprano Galina Gorchakova, and baritones Vladimir Chernov, Hvorostovsky, and Sergei Leiferkus; their back-of-the-throat singing is much more satisfying in this repertoire. Mr.



Valéry Gergiev

PETER MOUNTAIN



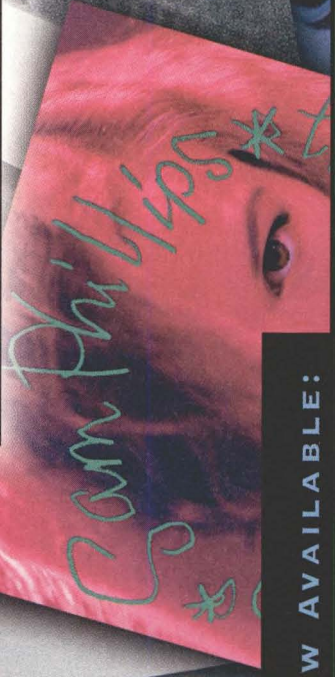
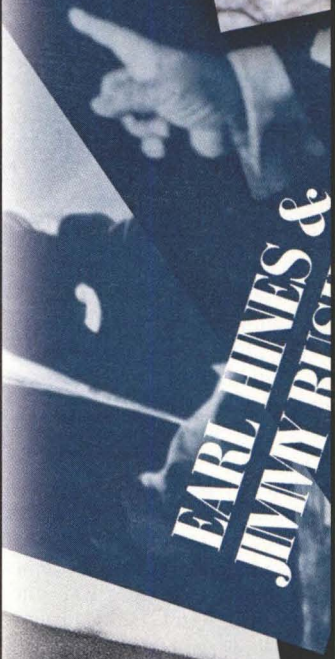
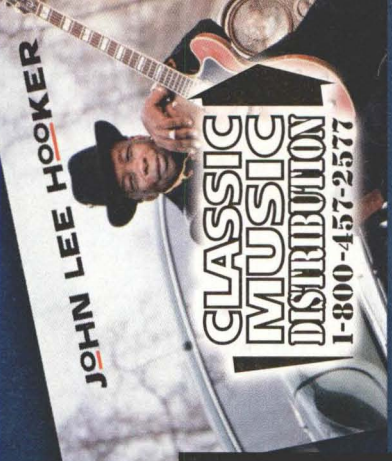
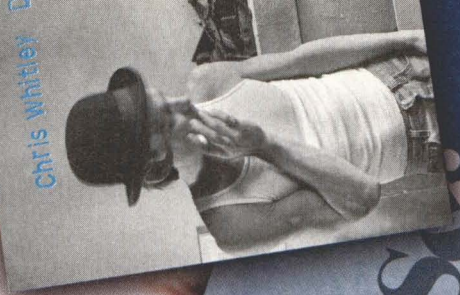
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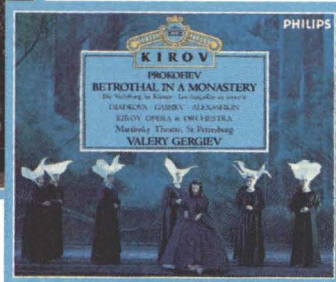
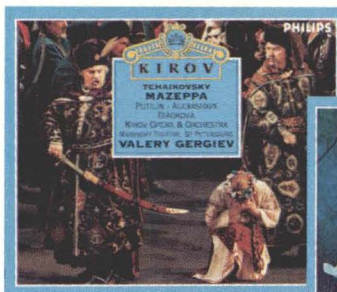
Leiferkus, in particular, is heard to better than usual effect; his Slavic vocal production and strange pronunciation of Italian render him annoying in the Verdi and Puccini he is so often assigned in this country, but he shines in Prokofiev's *The Fiery Angel*. Gergiev demonstrates a sure hand and fine artistic taste throughout these recordings.

Though there are several points of overlap, in each case there are considerable differences between the editions. Melik-Pashayev offers a superb interpretation, conducting a notable cast that includes Vishnevskaya in the Bolshoi's recording of Prokofiev's *War and Peace*; Gergiev's version of the opera, demonstrating one of the benefits of an ensemble system, offers the luxe casting of the remarkable Borodina in the minor role of Helene, along with many other fine singers. The Kirov edition is uncut, but the portions missing from the Bolshoi's reading are mostly panegyrics to the Russian people that owe more of their inspiration to the commissars than to Euterpe—or to Tolstoy. (Gergiev and company may be seen and heard in good form in their video presentation of *War and Peace*, in the stark production by British director Graham Vick.)

Prince Igor has one of the most convoluted compositional histories in all of music. Alexander Borodin worked on it in dilatory fashion for almost two decades, shifting scenes, music, and characters, and allowing his friend Nikolai Rimsky-Korsakov to dink around with portions of it even during his lifetime. After Borodin's death, Rimsky-Korsakov and his student, Alexander Glazunov, set about to make *Igor* performable, muddying the waters of Borodin's probable intent still further. Here the choice for the record buyer is between the traditional version and a new one that tries to make the opera more viable.

Melodiya's *Prince Igor* is a sentimental favorite for many in this country who first heard this difficult and sprawling but vocally satisfying work in the LP incarnation of the Bolshoi recording. It offers strong performances from Obratsova, Atlantov, and, in the title role, from Ivan Petrov, as well as idiomatic conducting by Mark Ermler and a musically cohesive if sometimes dramatically problematic score. The Philips version has a splendid cast singing an uncredited cut-and-paste score—with a three-page guide to who wrote or orchestrated what—that is missing some familiar moments but makes more sense dramatically. (The score was assembled "at the initiative of Artistic Director Valery Gergiev," although Yuri Faliak is noted as having composed "additional linking material.")

Recent issues include Rimsky-Korsakov's *The Legend of the Invisible City of Kitezh (and the Maiden Fevroniya)* (Koch 3-1144-2 Y5)—typically tuneful, typically Russian, and, typically, with a storyline that's more than a little bit convoluted,



Gergiev at home in the Kirov

Slavic-mystical, and obscure for most Western audiences. Although there are some lovely melodies here, presented with Rimsky-Korsakov's usual skillful orchestration, *Kitezh* is not for all tastes; although it is interesting, there are reasons, mostly dramatic, that this opera is an obscure one in the West.

Nor can the quality of the performances in this live recording (made at the 1995 Bregenz Festival) alone justify its purchase. The vocalism, all by Slavic singers, ranges from the regrettable to the adequate, but no performer stands out enough to deserve special praise. The technical quality is fine for a non-studio recording. Keen fans of Russian opera will find this rewarding; most others will not.

Two years ago, Gergiev stood before a roomful of music critics following a performance at the Lincoln Center Festival, and waxed astonishingly nostalgic for "the old days" of the Soviet Union. Hearing his new recording of Tchaikovsky's *Mazeppa* (Philips 289-462-206-2, 2 CDs), it's a little easier to understand why: back then he had great singers who couldn't seek employment elsewhere, along with plenteous rubles from the state to fund his operations. The money's gone, and so are the best singers. This is a splendid score, and Gergiev's leadership is fine, but the voices just aren't there. None of the solo singing really rises much above the level of the acceptable, while the chorus work is surprisingly poor.

Finally, *Betrothal in a Monastery* (Philips 289-462-107-2, 3 CDs), Prokofiev's setting of Richard Brinsley Sheridan's convoluted comic play *The Duenna*, takes a host of familiar characters and situations—young lovers attempting to circumvent a disapproving parent, an older woman who wants to wed, required and unrequited affection, requited and unrequited greed, mistaken identities—and tosses them together with a poke at the Church, a huge cast (23 named characters), and some of Prokofiev's niftiest theater music. It's an amusing outing, although the story could probably have been pared down and told quite comfortably in far less than the two and a half hours it takes to listen to the recording. Few of the roles call for more than character singing, and most of the cast obliges with just that. The Kirov Orchestra shines, while Gergiev maintains firm control over the proceedings. The set is handsomely packaged, but could have benefited from more photographs, both of the principal singers and of the production itself—an unfamiliar opera like *Betrothal* benefits from some stage setting. The libretto, curiously, is rendered in the original Cyrillic and English; a phonetic version of the Russian would have been much more helpful for the majority of Western opera lovers whose grasp of Cyrillic is less than firm.

A plethora of Russian song albums has appeared from a variety of labels, and more opera recordings are in the works. Niels Hostrup of BMG noted that there are more than 100 archival tapes from the Bolshoi yet to be remastered, while Valéry Gergiev has more projects on the way. Taken together, they go a long way toward filling a gaping hole in the repertory, and offer fascinating sounds and voices to ears that are ready for something different. ☒

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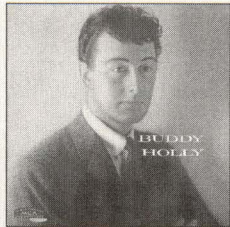
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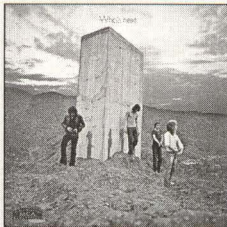
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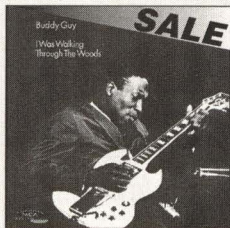
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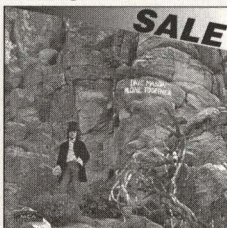
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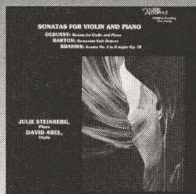


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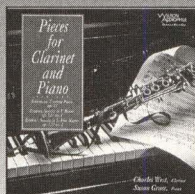


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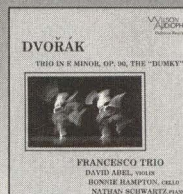
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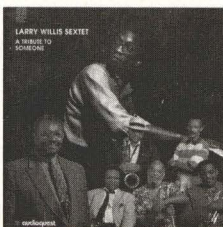
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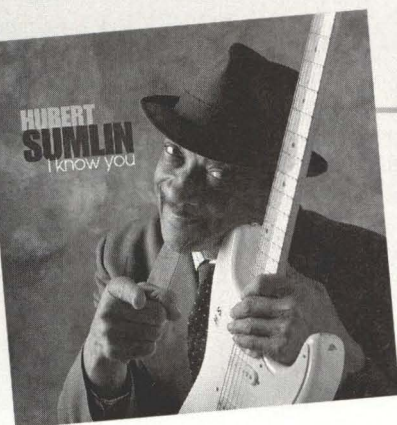
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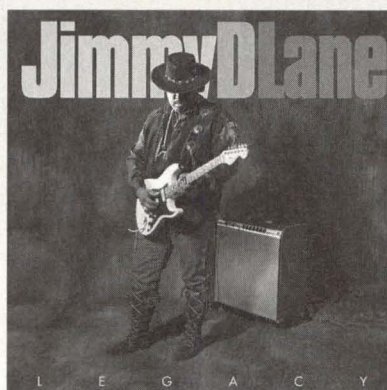
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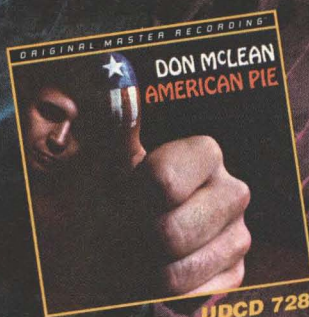
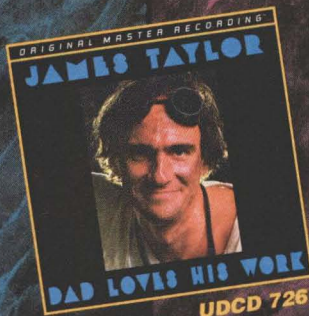
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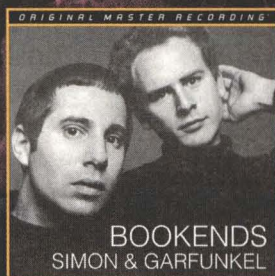
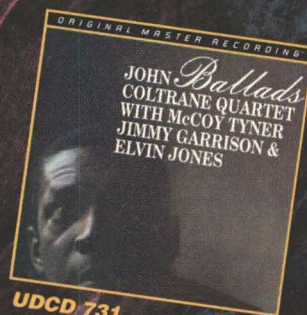
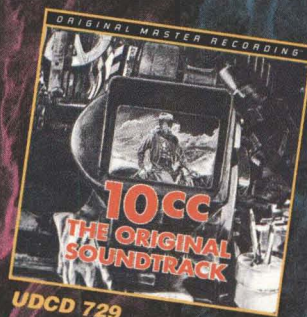
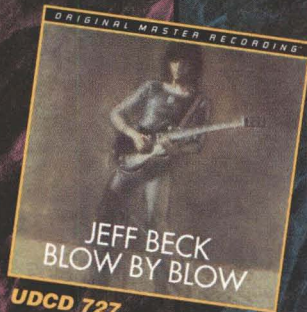


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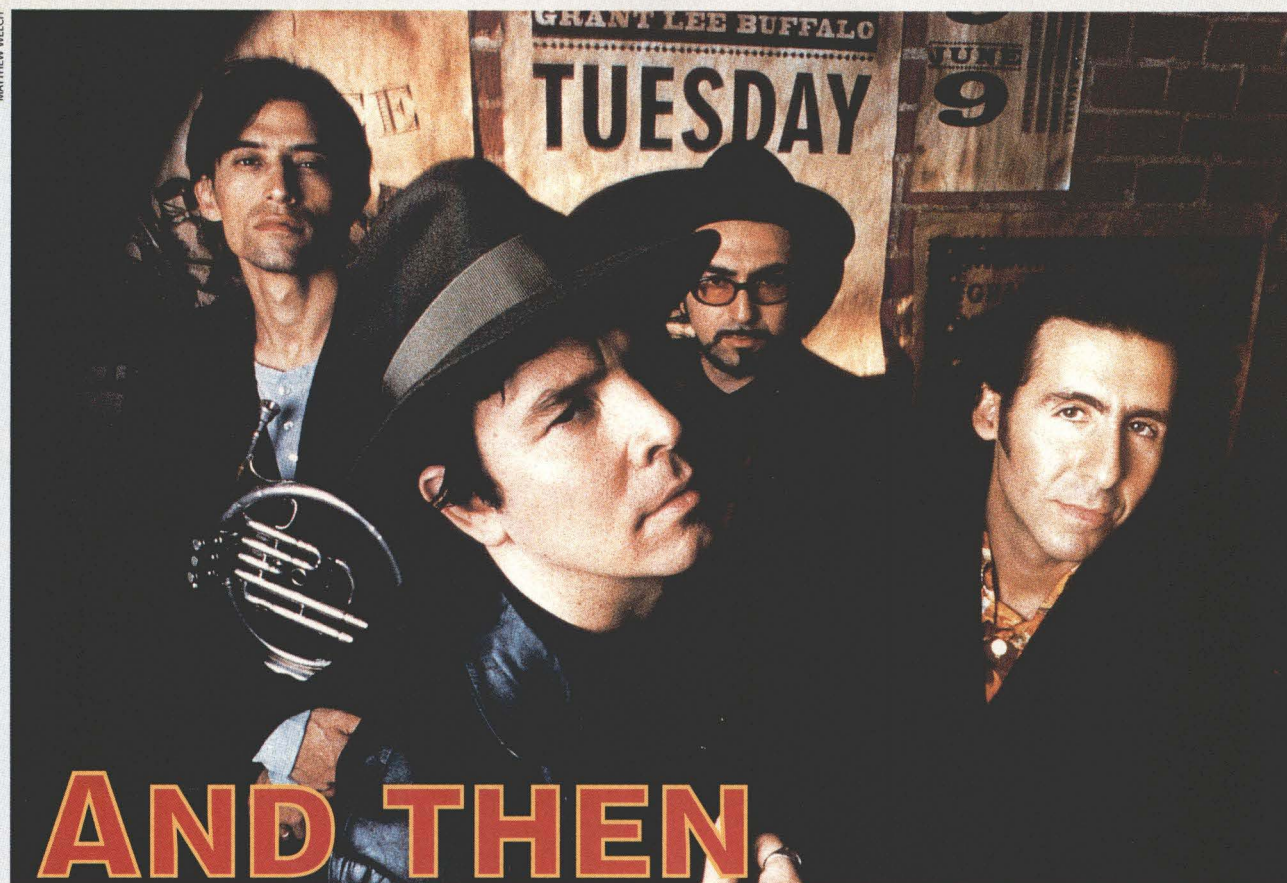
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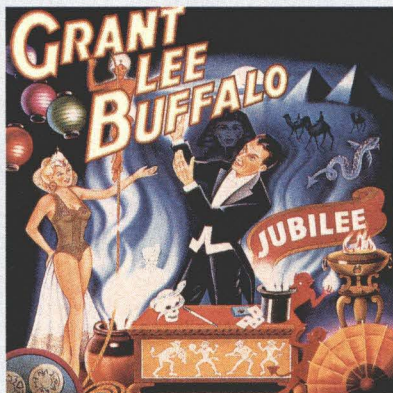
AND THEN THERE WERE TWO

If their new album *Jubilee* is any indication, Grant Lee Buffalo have found strength in smaller numbers

You gotta love guitar bands—what with their sleep-'til-noon lifestyles, open-a-can diets, and boundless belief that when it comes to being a star—they're next. But seriously, when there's genuine talent at work, there's nothing quite like the 'ol two-guitar, bass-and-drums archetype. And considering that the world is awash in rock bands—most of which aren't selling many records these days—it does take confidence (and courage) to get out there and try to be different.

As cuddly as guitar bands can be, however, once you've interviewed enough of them, one fact becomes painfully clear: most have nothing of consequence to say. Asked about the act of creation, their answer is invariably some wonderfully resonant anecdote like: "Uh, well, I think up the melodies, and Tommy [it's always someone whose name ends in "ee"] writes the words, and we sorta, uh, just do it." Happens every time. MTV is full of it. It's just part of the whole being-in-a-band trip—the beautiful part of sex, drugs, and rock'n'roll is that no heavy thinking is involved.

But why hack only on rock? I bet Mozart had no earthly idea why his ideas came to him. Writing music, no matter what the genre, has much to do with instinct—you have it or you don't.



ROBERT BAIRD

Let's get back to the Spinal Tap syndrome. Pop-leaning guitar-rock bands—the ones that critics inevitably refer to as having produced "gems" and "jewels"—are especially nonverbal. After having answered twelve thousand questions about why they sound like the Beatles, they simply (and justifiably) shut down. Permanently. An interviewer can only hope that they've recently experienced an epiphany of some kind: a death in the family, a split with a long-term girlfriend, the near collapse of the band because a key member has moved on.

That last scenario has brought Grant Lee Phillips and drummer Joey Peters, his bandmate in Grant Lee Buffalo, back to life. Unlike most of the "Uh, we just do it" crowd, Phillips is a pop auteur of considerable gifts. Last year, after the band's third album—1996's quieter, gentler *Copperopolis*—died without a whimper, bassist/pianist Paul Kimble, the

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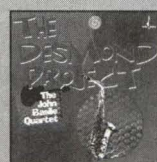
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John Atkinson, *Stereophile*, June '98

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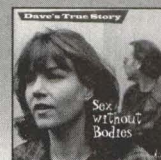
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third member of what was then a trio, decided to walk. But instead of swamping the band, the change lit a creative conflagration that eventually produced GLB's glistening new pop jewel — ahh, I mean gem... no, make that bijou — *Jubilee*.

"All of the changes were in a positive direction," Phillips said over the line from Los Angeles. "There's a new sense of vitality. Joey and I have done away with the stigmas from the past. We've let go of the preconceived notions of what the band should be. Now we can just throw out ideas, which would have been dangerous in the past."

Peters agrees: "The rules that were Grant Lee Buffalo no longer apply. It wasn't a painful split as much as it was about evolution. This record is true to where we are, where we are going."

Jubilee is a knockout: an atmospheric mélange that packs in every trick from the book of pop: hooks on hooks, borrowings from every other genre you can name, unpredictable inventiveness, acoustic spaces and electric crunch, lush melodies, Phillips' soaring voice, plenty of references to the Beatles and the Beach Boys — it's all there.

The album bounces from strength to strength. "APB" is



Pop survivors: For Grant Lee Phillips and Joey Peters, change has meant the best album of their career.

JUBILEE SOUNDS UNCOMMONLY RICH AND FULL-BLOODED FOR A ROCK RECORDING.

an appropriately aggressive, hard-edged opener, and "Seconds" shows the band's psychedelic leanings. The single, "Truly, Truly," is an appealing confection that's begun to get considerable airplay, and is more than a tad reminiscent of John and Paul at their earnest, innocent best.

Speaking of the Beatles, for those who like their guitar pop chock-full of Lennon/McCartneyisms, it doesn't get much better than "Change Your Tune," in which a falsetto overdub in the chorus makes you stop and smile. Ditto for the "Bungalow Bill" loopy title tune. "Testimony," with its soft-loud dynamics, has the kind of soaring chorus that marks Phillips as one of guitar pop's most talented singer/songwriters. "Come to Mama, She Say" is Phillips in his rootsy, folktale-spinner mode. Even arty noise rock gets its day in "Superslomotion."

An elaborately constructed "studio record," *Jubilee* sounds uncommonly rich and full-blooded for a rock recording. The soundstage is deep and evenly spaced, its many layers crisply defined.

Some of that body comes from the guest list. Former Tonic bassist Paul Rothchild has replaced Kimble, and for this disc former Jellyfish/'Til Tuesday guitarist Jon Brion was brought aboard to add texture. Guests include R.E.M.'s Michael Stipe (Grant Lee Buffalo was the opening band on R.E.M.'s last US tour), B-3 organist Rami Jaffee, and Robyn Hitchcock. The great Greg Leisz's pedal and lap steel contribute accents and layers of sound throughout.

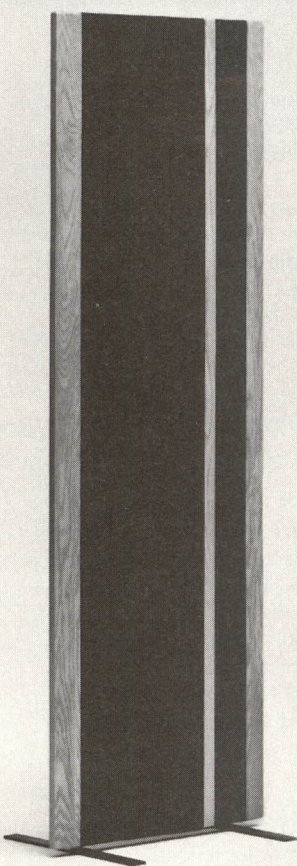
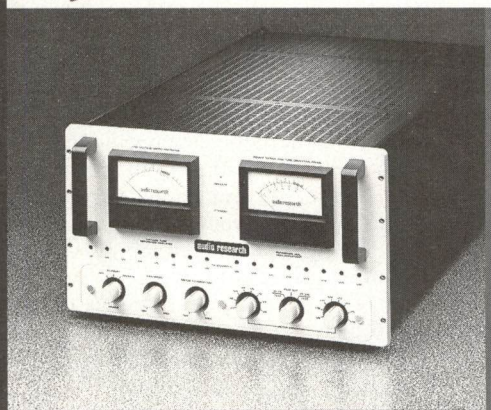
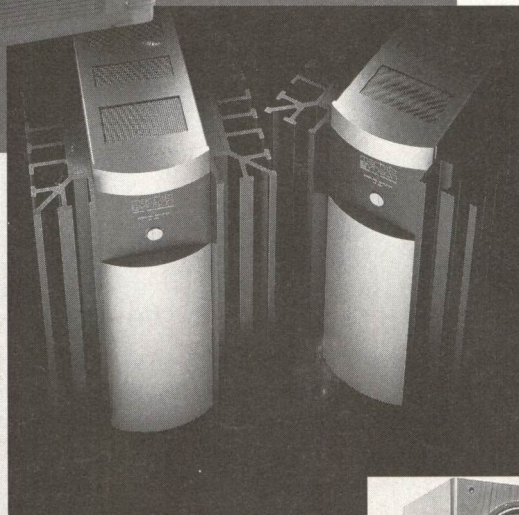
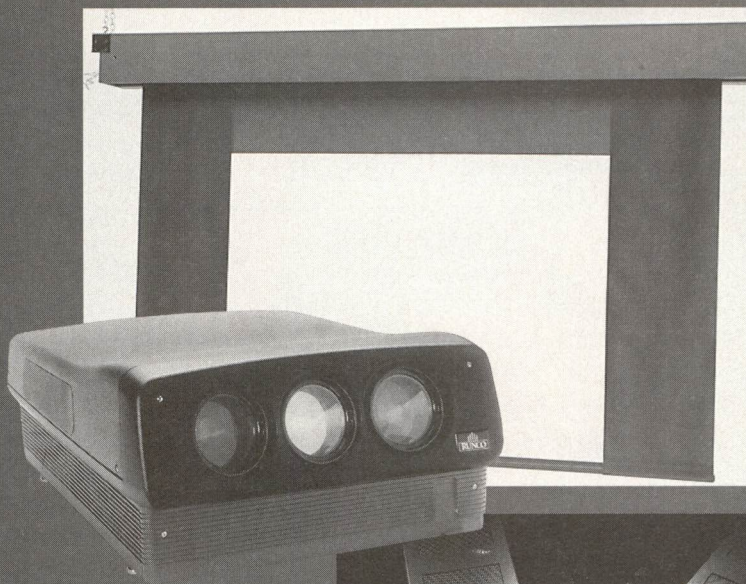
"With this album, I feel like there are a lot more colors to choose from on our palette," says Joey Peters. "There's a lot more room for the dynamics to breathe. More music under Grant's voice. It's a richer layer cake now." He pauses to laugh at the list of metaphors he's just compiled. "It's our summer record, man."

Phillips began his life in music in the L.A. band Shiva Burlesque, in which his initial distinction was his psychedelic approach to the 12-string guitar. He then joined up with SB alum Peters and bassist/producer Paul Kimble to make the first Grant Lee Buffalo disc, *Fuzzy*, released in 1993. Gorgeously produced by Kimble, *Fuzzy* revealed not only that Phillips could sing — often in breathtaking falsetto — but that he also had large-scale songwriting ambitions. Determined to join lush, likable pop tunes to an artsy, almost Woody Guthrieian expanse of uniquely American storytelling, Phillips is both retro and modern at the same time. On *Fuzzy*, for example, he touched on the Lone Ranger, Pocahontas, and New Orleans.

The group's second disc, the sparkling *Mighty Joe Moon*, contained the song "Last Days of Tecumseh," about a subject not normally associated with pop songs. *Copperopolis* went a step further, venturing into Springsteenland with "Bethlehem Steel."

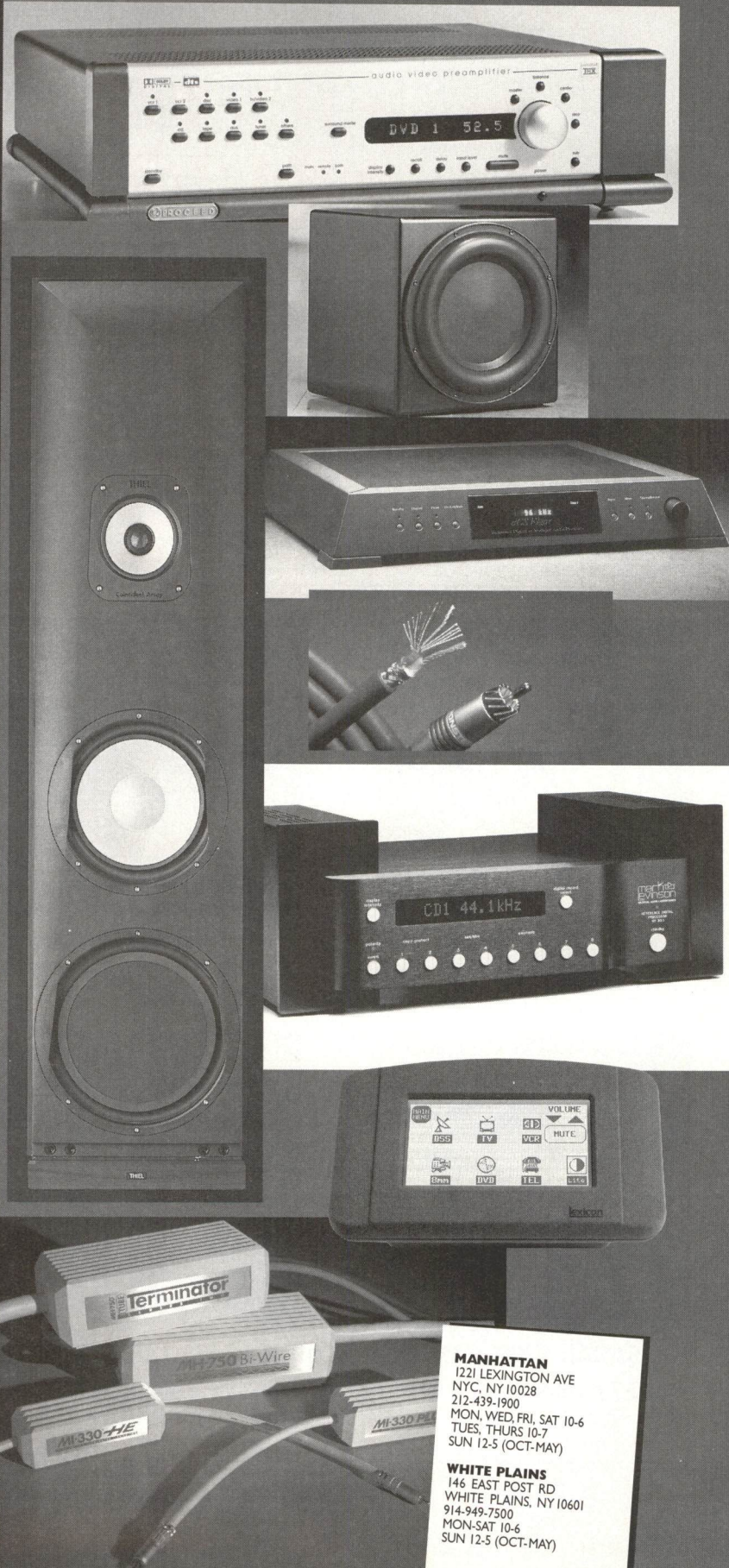
The thirtysomething Phillips attributes his range to the soundtrack of his childhood: "It [the '70s] was a weird time. David Bowie, Alice Cooper, John Denver were all on the same stations. Some of it stuck with me and some didn't."

"On the other hand, the Beach Boys and the Beatles were the furthest things from my mind when I wrote a song like 'Truly, Truly.' But I guess I'm aware of it when the roots, the Beatle-isms, begin to show. It's unconscious. It goes beyond Beatlemania." □



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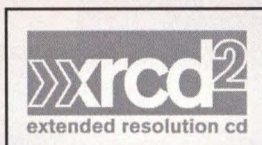


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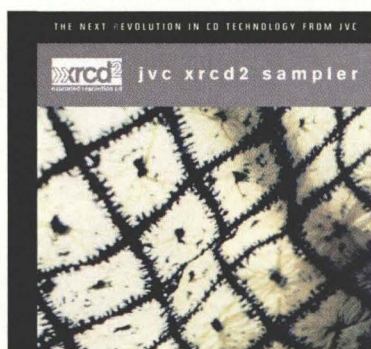
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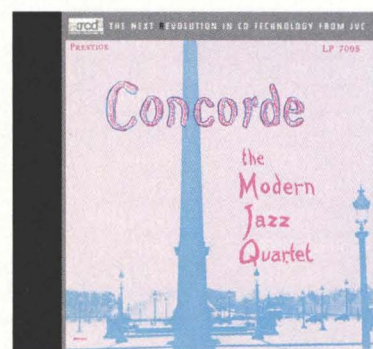
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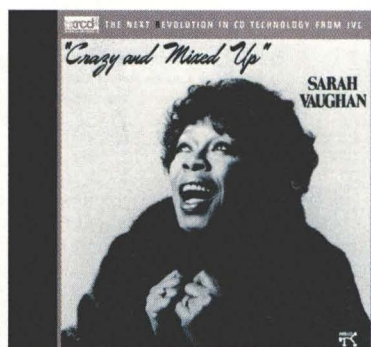
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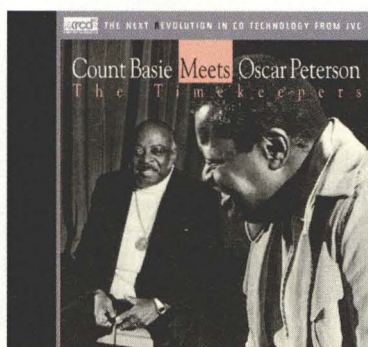
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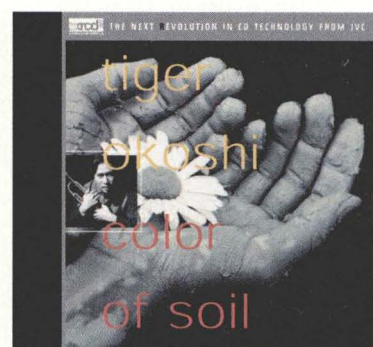
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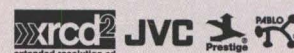
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Sonic Frontiers Transport 3 CD transport & Processor 3 D/A processor

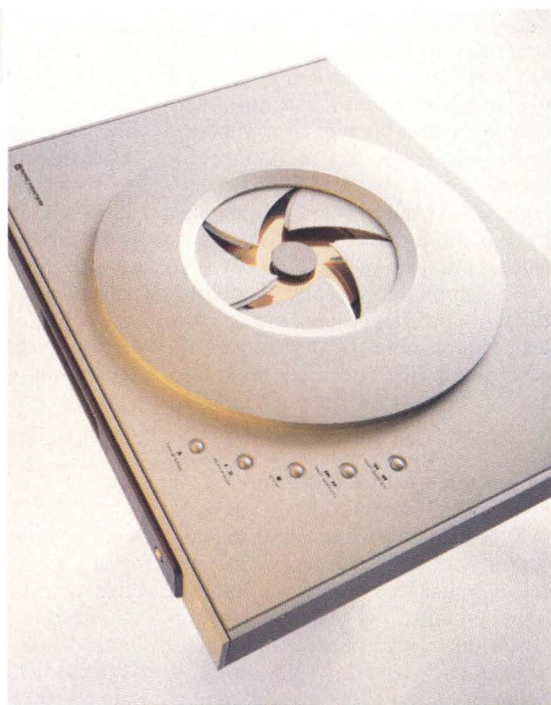
Perhaps I shouldn't have been surprised when I first spied the prototypes for Sonic Frontiers' luscious new digital combo, the Transport 3 CD transport and Processor 3 D/A processor, at HI-FI '97 in San Francisco. After all, this is the company whose meteoric rise from an electronic parts-supply outfit run out of president Chris Johnson's basement to a large factory pumping out an impressive array of entry-level to *crème de la crème* tube electronic components has elevated Sonic Frontiers to front-line status among high-end manufacturers.

In many ways, the Sonic Frontiers (SF) story defines the high-end entrepreneurial spirit. (See the SF interview with Robert Deutsch in *Stereophile*, Vol.19 No.6.) Remember, too, that the company's first foray into digital—the original SFD-2 processor some five years ago—was met with near-universal acclaim and a Class A rating in *Stereophile's* "Recommended Components." SF maintained that Class A status with the SFD-2 Mk.II and the SFT-1 transport.

In spite of Sonic Frontiers' admirable track record, I was surprised at the ambitious scale of their new designs, most visible in the radical look of the Transport 3 and its iris-ported disc-loading mechanism, but even more impressively apparent under the skin of the Processor 3.

However, after a careful examination of the Processor 3 prototype in SF's St. Francis Hotel suite at HI-FI '97, where it was on silent display, it was obvious that this was no mere souped-up SFD-2 Mk.II, but an all-new animal with several substantial engineering advances. Features that first caught my eye were its outboard power supply, discrete I/V conversion, and I²S-Enhanced interface designed by UltraAnalog, who had a major hand in the overall design of the Transport 3 (T-3) and Processor 3 (P-3). (I²S stands for Inter-IC-Sound.)

Could the Sonic Frontiers/UltraAnalog team have outdone themselves again, and not with just another Class A processor, but one that could redefine the Class A category? And what about the slick new T-3? Could its performance match its way-cool looks? More important, could a



Sonic Frontiers Transport 3 CD transport

CD-only transport sporting a price tag a buck shy of \$7000 find a place in the uncertain, rapidly changing world of digital audio?

These and other questions placed both products at the top of my HI-FI

Transport 3: CD transport. Interface options: 110 ohms, $\pm 5\%$ AES/EBU; 75 ohms, $\pm 5\%$ BNC; RCA, S/PDIF, ST-Glass Optical, and I²S-Enhanced interface employing a 13W3 "d-sub" connector (13W3 cable included). Pro CDM12 top-loading Philips disc drive. **Dimensions:** 19.125" (490mm) W by 4" (100mm) H by 16" (400mm) D. Weight: 31.5 lbs (14.3kg) net.

Serial number of units reviewed: 105982 (auditioning); 106649 (measuring).

Price: \$6999, including I²S-E cable and remote control.

Processor 3: 20-bit, fully balanced HDCD-capable digital processor with

tube output stage and outboard power supply. Tube complement: 4x 6922. Frequency response: 5Hz–20kHz, ± 0.25 dB. Intrinsic jitter: <35ps via S/PDIF, below measurable limits via I²S-Enhanced (no measurement method specified). Unweighted S/N ratio: >115dB. Crosstalk: >130dB 1kHz, >115dB 16kHz. THD: <0.02%. Maximum output level: approximately 3.0V unbalanced, 6.0V balanced. Power-supply requirements: 60VA.

Dimensions: Main chassis: 19" (480mm) W by 4.5" (115mm) H by 14.25" (360mm) D. Power supply: 9" (230mm) W by 4" (100mm) H by 13" (330mm) D. Weight (together): 30 lbs (14kg) net.

Serial number of units reviewed: 105982 (auditioning); 106499 (measuring).

Price: \$6999.

Both:

Approximate number of dealers: 100. Warranty: 5 years parts & labor, 1 year on mechanism (Transport 3), tubes (Processor 3).

Manufacturer: Sonic Frontiers, 2790 Brighton Road, Oakville, Ontario L6H 5T4, Canada. Tel: (905) 829-3838. Fax: (905) 829-3033. E-mail: SFI@sonicfrontiers.com. Web: www.sonicfrontiers.com.

'97 wish list. But before we get to my answers, let's take a closer look at the make-up of both units.

Transport 3: An EYeris for the refined

I've seen transports that are more flashy or ornate than Sonic Frontiers' new show-stopper, but the Transport 3 is wonderfully slick, clean, and elegant—to my eye, one of the most attractive disc-spinners yet. The transport is quite large; viewed from the front, the width of the chassis—dominated by $\frac{5}{8}$ "-thick machined aluminum exterior plates sporting a shot-blasted, clear-anodized finish—is offset by its low-profile height of only $3\frac{1}{4}$ ". Add the special 1"-high Sorbothane isolation feet supplied by E.A.R., and the total unit height reaches just over 4".

The aluminum faceplate establishes the transport's clean look and is maintained throughout the design, with the exception of SF's trademark black front

bezel, within which is centered an easy-to-read green LED display and a small power button. All other chassis-mounted controls are arrayed in a graceful arc on top of the device along the front right side of the disc-loading mechanism.

It's the disc-loader that gets the most oohs and aahs. Centered on the top plate of the transport is an aluminum ring 12" in diameter and $\frac{5}{8}$ " thick, with a hole slightly more than 6" in diameter cut in the center. When open, this hole exposes the transport's laser pickup, tracking sled, and disc spindle. Position a CD on the extended portion of the spindle, place the small magnetic cap on top of it to secure the disc while it rotates (this disc clamp meets the Philips standard for total mass to prevent excess motor stress), and press Close: Five vanes, each shaped much like the dorsal fin of a great white shark, rotate inward from their concealed positions beneath the outer ring to seal the opening tightly,

with an action similar to that of the iris shutter on an SLR camera. This proprietary mechanism is driven by a precision Swiss motor and is definitely cool to watch as it makes a distinct whirring sound not unlike the meat slicer at a local deli (though considerably quieter). With a CD spinning underneath, opening and closing the iris hatch really does look like an eye from an M.C. Escher painting winking at you—or, depending on your frame of mind, an exit door on one of the motherships in *Mars Attacks!*

The rear panel offers a full set of digital outputs, including an AES/EBU, S/PDIFs of both the RCA and BNC varieties, ST-Type glass optical, the all-important I²S-Enhanced 13W3 output connector, and an infrared port for linking the transport to an outboard IR repeater. Of course, there's a standard IEC power inlet as well.

Though only three hex-head screws connect the aluminum side plates to the

Measurements

Due to logistical difficulties, the samples of the Transport 3 and Processor 3 that I measured were not the ones auditioned by Shannon Dickson. Unfortunately, my first sample of the Transport 3 wouldn't play discs, so Sonic Frontiers FedExed a replacement. Except where indicated, measurements were made from the Processor 3's balanced analog outputs.

The Processor 3's output was noninverting from its unbalanced outputs, and from its balanced outputs with pin 2 wired as "hot." The maximum output level was a high 5.82V balanced, 2.9V unbalanced. Its output impedance was 290 ohms balanced and 125 ohms unbalanced, both of which should be low enough to drive difficult combinations of cable and preamp load impedance. However, I did notice that, into a 600

ohm load at high levels, the waveform peaks were visibly rounded, suggesting that very low input impedances—such as the Bow Technologies Wazoo integrated amplifier, or some of the Jeff Rowland Design Group preamplifiers—are probably best avoided.

The Processor 3's frequency response into 100k ohms (fig.1, top trace) was perfectly flat over most of the band, with a very slight droop apparent in the top octave. The channel balance was superb, though this did worsen into 600 ohms (fig.1, middle traces). The response with de-emphasis (fig.1, bottom traces) was the same as without, implying zero error. Channel separation (fig.2) was excellent from both sets of outputs, though there was less crosstalk from the balanced XLR jacks. The rise in crosstalk above 1kHz is due to a very small degree of capacitive coupling between channels, but this is superb per-

formance nevertheless.

Fig.3 shows the spectrum of the Processor 3's balanced output while it decoded data representing a dithered 1kHz tone at -90dBFS. The top pair of traces were taken with the Audio Precision's digital generator set to a 16-bit word length. Increasing the word length to 20 bits dropped the level of the noise floor by just over 20dB, unmasking a trace of power-supply noise at 60Hz. At -135dB (left) and -140dB (right), this won't be bothering anyone. Increasing the word length to 24 bits did drop the noise by another 2dB or so—this is one of the highest-resolution D/As we have measured, with ultra-low noise and a true 20-bit dynamic range. (A "24-bit" DAC may take in 24-bit digital words, but its real-world resolution

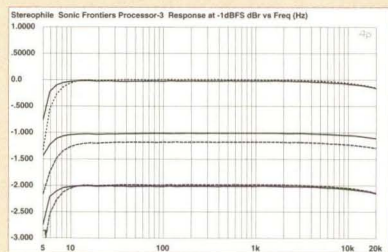


Fig.1 Sonic Frontiers Processor 3, frequency response at -1dBFS into 100k ohms (top), into 600 ohms (middle), and de-emphasis response (bottom) (right channel dashed, 0.5dB/vertical div.).

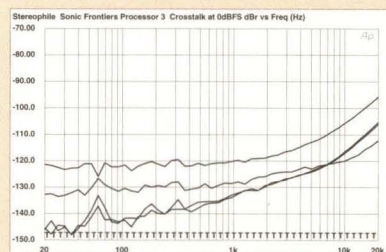


Fig.2 Sonic Frontiers Processor 3, crosstalk (from top to bottom): L-R, R-L, unbalanced; L-R, R-L, balanced (10dB/vertical div.).

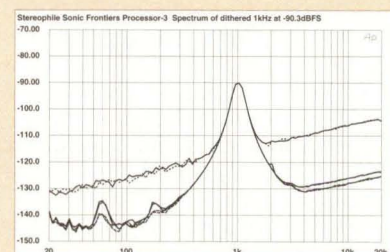


Fig.3 Sonic Frontiers Processor 3, spectrum of dithered 1kHz tone at -90.31dBFS, with noise and spurs (from top to bottom): 16-bit data, 20-bit data, 24-bit data (right channel dashed).

thick top lid, if you feel the need to gaze at the T-3's innards, be careful. Lift the lid slowly and only slightly—the transport mechanism itself is mounted to the bottom center of the heavy lid, with control, signal, and power wiring connecting it to the main board and power supply.

What you'll see will be three circuit boards and the various connectors mounted inside a 14-gauge black-plated sheet-metal subchassis, to which the side and front machined aluminum outer plates are attached. The largest board is a long L-shaped, dual-sided, solder-masked pcb that runs along the left side and rear section of the lower subchassis. This board contains the circuitry for all the output options. The 12 regulated low-impedance, ultra-low-noise power supplies spread across this board are fed by a large custom-built toroidal transformer in the upper right corner of the subchassis. The total capacitance of these supplies is around 25,000 μ F, close

to that of some small amplifiers!

Also on the T-3's main board is a "proprietary" AT cut-crystal master oscillator to provide precise timing for transport functions, as well as for the word clock feeding the outboard digital processor. According to Chris Johnson, great care was applied in the execution and layout of these dual-cascaded, RC-filtered voltage regulators to provide DC power with the lowest noise possible for critical clocking functions, and to ensure the greatest immunity from phase-noise contamination of the jitter spectrum. I suspect that this feature and the I²S-E interface are two of the biggest contributors to the unit's rock-solid performance. The transport mechanism is a relatively new version of Philips' Professional CDM-12, and was specifically designed for top-loading players. It incorporates a rigid die-cast construction, a three-beam optical system, and a unique servo processor claimed to en-

hance the T-3's disc-tracking ability.

Wrapping up the transport package is a 13W3-I²S cable and a very suave little round, flying-saucer-like remote control. This remote is a real gem; it rides nicely between one's thumb and middle finger, leaving the index finger free to operate the buttons. As a reviewer, my only complaint is the inability to select specific track numbers when jumping around a disc containing many tracks, something I do often when making A/B comparisons of different components. However, I doubt this will much inconvenience the average user. A generic plastic remote is also available if keypad functions are desired.

Processor 3: Stretching the limit

The Sonic Frontiers Processor 3 is a two-box affair featuring a fully differential, balanced topology in both the analog and digital domains. The large main chassis is attached to the smaller (though

is limited by its analog noise floor.)

Not surprisingly, the processor's linearity error (fig.4) is basically zero down to well below -100dBFS. And feeding it 24-bit data representing an undithered sinewave at -90.31dBFS gave a waveform that had an excellent sine shape (fig.5). This also indicates excellent low-level resolution and ultra-low noise, both well in advance of the 16-bit CD standard. Performance-wise, the Processor 3 is definitely "24/96 ready."

The analog circuitry seems very linear, to judge from fig.6, which shows the spectrum of the player's balanced output while it reconstructed a low-frequency tone at full level. The second harmonic is the highest in level at -86dBFS (0.005%), though the fifth, sixth, and seventh harmonics can also be seen. These harmonics remain the same in level from the unbalanced outputs (fig.7), though the third and fourth now

make an appearance. All are very low in level, however. Looking at the output spectrum (fig.8) with the "torture" signal of 19kHz and 20kHz tones, each at -6dBFS, a number of intermodulation products can be seen, though the highest in level are still at or below -90dBFS.

I examined the Sonic Frontiers' jitter performance with the units connected both by a conventional AES/EBU

datalink—6' of 110 ohm Canare cable—and by the I²S-E datalink, using the Miller Audio Research Jitter Analyzer. The foreground trace in fig.9 shows the narrow-band spectrum of the Processor 3's unbalanced output while it decoded data representing an 11kHz tone with an average level of -10dBFS (-6dBFS peak). This is overlaid by a 229Hz

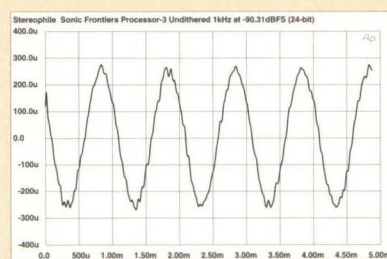


Fig.5 Sonic Frontiers Processor 3, waveform of undithered 1kHz sinewave at -90.31dBFS (24-bit data).

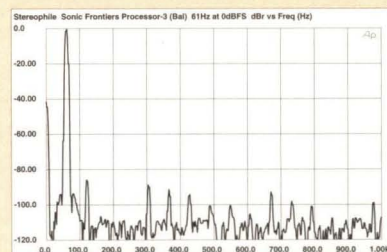


Fig.6 Sonic Frontiers Processor 3 balanced output, spectrum, DC-1kHz, 61Hz at 0dBFS (linear frequency scale, 20dB/vertical div.).

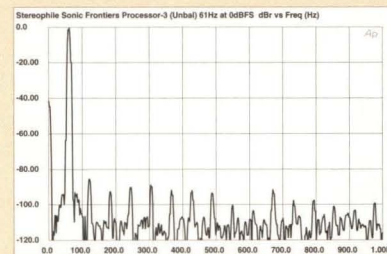


Fig.7 Sonic Frontiers Processor 3 unbalanced output, spectrum, DC-1kHz, 61Hz at 0dBFS (linear frequency scale, 20dB/vertical div.).

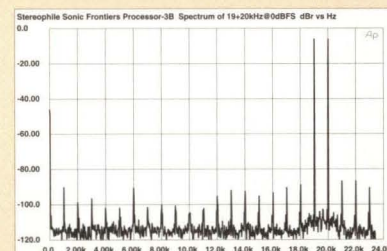


Fig.8 Sonic Frontiers Processor 3, HF intermodulation spectrum, DC-24kHz, 19+20kHz at 0dBFS (linear frequency scale, 20dB/vertical div.).

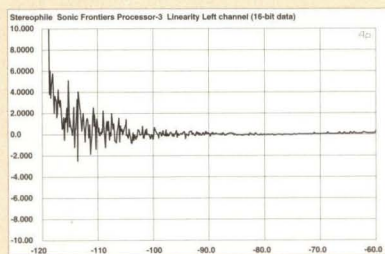


Fig.4 Sonic Frontiers Processor 3, left-channel departure from linearity (2dB/vertical div.).

still hefty) outboard power supply via a 6½' detachable cable. Like the T-3's, the P-3's front panel is easy to read from a distance, displaying locked sample frequency and selected digital inputs.

The power supply is a beefy, straightforward design with a large potted transformer feeding six stages of regulation within the power-supply chassis. Several of these primary regulators are, in turn, cascaded to other stages within the main unit for a total of 14 regulators serving the processor. All but two on the analog output board use Linear Technologies' low-noise version of the popular 317/337 three-pin devices.

The main chassis contains three large circuit boards partially overlapping one another above the floor of the unit, as well as a fourth, vertical board assigned to front-panel duties. Of prime importance for the prospective buyer is the manner in which these boards are laid out. With the emergence of higher-res-

olution digital formats, I feel it would be folly to plop down a large sum for a processor that wasn't easily updateable, regardless of how good it makes CDs sound. SF obviously had this in mind when designing the P-3, and has carefully configured the principal boards to anticipate new developments. For example, the front-panel board already supports display of 88.2kHz and 96kHz sample rates.

The digital input board contains six interface options, selectable via front-panel buttons, including counterparts to all of those found on the T-3, plus TosLink. All input signals, other than that from the I²S-E interface, are routed through an AES21-C002 encapsulated input receiver for recovery of the clock and data.

Also on this board is the now-ubiquitous PMD-100 HDCD digital filter, but with a wrinkle. Much has been made of the 6dB of attenuation required by

Pacific Microsonics to be applied to all non-HDCD discs for level matching with HDCD-encoded software. A DAC designer can choose to implement this signal reduction in either the analog or digital domains, though each technique has potential compromises. The P-3 I reviewed bypassed this attenuation altogether, and did so while eliminating any extra resistors or relays in the signal path. A simple jumper is located just before the PMD-100 chip. Therefore, if you find it annoying to have to adjust the volume on your preamp when switching between HDCD and non-HDCD discs, you can easily engage the specified gain-scaling for regular CDs, in this case applied in the digital domain with a resultant 1-bit loss of resolution.

The second and largest circuit board runs across the entire front of the processor and is made of Arlon, an expensive Teflon/Fiberglass hybrid said to be

Measurements

squarewave at the LSB level. The peak-peak jitter was the lowest I have ever measured, at 128.5 picoseconds (ps), while the clock error was a low +36 parts per million. What jitter is present mainly consists of data-related sidebands (indicated by the red markers), though there are also some sidebands present at a low 15.6Hz fundamental frequency (purple markers).

For comparison, the grayed-out spectrum in fig.9 is a spectrum taken under identical conditions, except now the Transport 3 is driving the Processor 3 via the Canare AES/EBU link. Note the rise in data-related jitter—the 229Hz sidebands marked with a red “4” have risen tenfold, from 43.5ps to 456ps—with the total peak-peak jitter now measuring 493.4ps. While the higher

harmonics of the 15.6Hz jitter have disappeared, note the very strange symmetrical rise in the noise floor either side of the central peak. This is presumably a characteristic of the UltraAnalog data-receiver circuitry, as it was not changed no matter what datalink or transport I used. Substituting a Meridian 500 transport for the Sonic Frontiers with the Canare AES/EBU link gave 509ps of jitter, while using a TosLink datalink increased the weighted peak-peak jitter to 603ps. In each case the double-winged noise floor remained the same, the differences in data-related jitter leading to the differences in measured jitter levels.

Predicting the subjective effects of this kind of low-frequency, random-noise jitter is a foolhardy task, but it has been conjectured that it will increase the apparent size of individual images within the stereo soundstage as well as lead to a decrease in pace and rhythm.

Finally, the Transport 3 managed to track the Pierre Verany Test CD, which has intentional gaps in the data spiral, quite well. It played through Track 32 without problem, but started to mis-track on Track 33, which has a 1.5mm dropout.

—John Atkinson

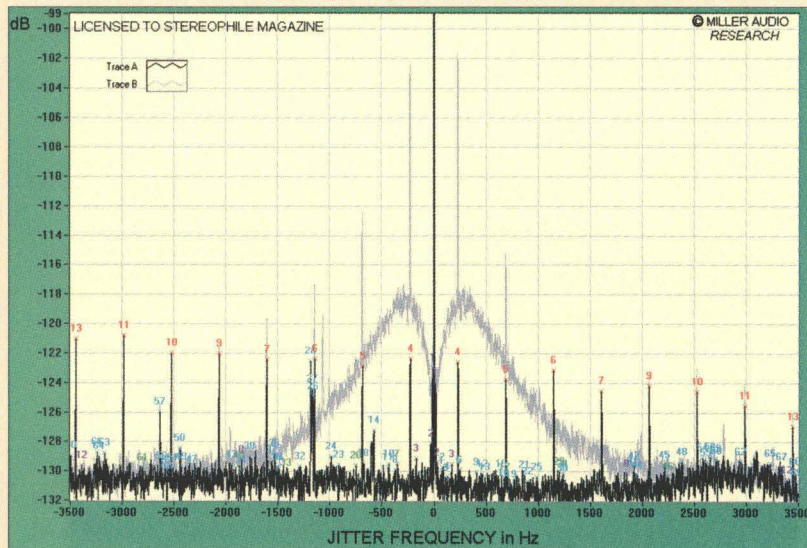


Fig.9 Sonic Frontiers Processor 3 driven by Transport 3 via I²S-E datalink, high-resolution jitter spectrum of unbalanced analog output signal (11kHz at -10dBFS with LSB toggled at 229Hz). Center frequency of trace, 11kHz; frequency range, ±3.5kHz. (Grayed-out trace is the Processor 3 driven by the Transport 3 via 6' of 110 ohm Canare AES/EBU datalink.)

ideal for delicate high-speed signal-processing applications. Chris Johnson says that it is one of the largest Arlon boards ever made. The other two dual-sided boards are of FR-4 glass epoxy.

Four separate stages of regulation are found just prior to the two dual 20-bit UltraAnalog D20400-A DAC modules, providing a discrete stage of isolation and 5V power-supply conversion for each internal DAC, each of which, in turn, serves a separate channel phase. These DAC modules are UltraAnalog's best, but with a major enhancement applied within the P-3. Most other versions of the D20400-A DAC incorporate the critical current-to-voltage (I/V) conversion circuitry within the DAC module, usually a high-speed op-amp from companies such as Analog Devices or Burr-Brown. In this instance, UA designed an onboard I/V conversion module made up of some 75 discrete surface-mount components per channel. According to Chris Johnson, "this novel circuit has significantly better low-level IM-distortion artifacts than their previous integrated I/V stages." Johnson also credited much of the P-3's reported ultra-low noise floor to the new I/V design.

After voltage conversion, the signal goes through analog reconstruction via a discrete, third-order, passive LCR filter for each channel phase. It's a point of pride for Johnson that SF was able to implement this new reconstruction filter with minimal high-frequency attenuation at 20kHz by using a variation of a Chebyshev design.

The final board of interest is chock full of discrete circuitry supporting the four 6922 dual-triode tubes—double the tube count of the SFD-2 Mk.II—that form the heart of the processor's analog output stage. Each channel phase has one dual triode with its internal sections connected in parallel, effectively resulting in eight tubes within four bottles for a 3dB reduction in noise and a halving of the output impedance. Furthermore, the output stage, a cathode follower with solid-state current sources, eschews the coupling caps of SF's previous processors. Instead, it employs a direct-coupled design via surface-mounted servos on the bottom of the board, resulting in a largely frequency-independent output impedance, as first seen in SF's highly touted SFCD-1 CD player. These servos are accompanied by a "failsafe" circuit that ensures that no DC can pass to the outputs in the event of servo failure. UltraAnalog's Richard Powers said that "you can even

yank a tube while the unit's on without any DC surprises." Rather than test this claim, I took his word it, and suggest you do as well!

The P-3 also has a shunted mute relay that remains out of the signal path, and a second-order output low-pass filter to attenuate RFI from riding down the interconnects. (By the way, if your preamp lacks the ability to set different gain levels for various sources, be very careful when switching to the P-3 from

**"You can even yank
a tube while the
Processor 3 is on
without any DC surprises."
—Richard Powers of
UltraAnalog**

any other input. The unit outputs a healthy 3V from its unbalanced RCA jacks, and a whopping 6V from its pair of balanced XLR connectors!)

All in all, a *very* impressive piece of engineering, and ample proof that the SF/UA team pulled out all the stops to build the quietest and best-sounding digital processor they could, regardless of price.

Means and methods

My experiences with the Processor 3, followed much later by the Transport 3, took place in two distinct phases. The initial stage began in the fall of 1997, after an early production P-3 arrived at my Honolulu apartment. At the time I was in the midst of an extended sabbatical from these pages as I oversaw the design and construction of my new home, into which I finally moved this past May. (My empathy is extended to all who've been through that mind-numbing experience.)

Eager as I was to experience the P-3 in its best light, I immediately connected its 13W3-I²S-E connector to a Muse Model 5 transport. Unfortunately, I could get no signal lock, even though the Muse unit was equipped with a fully functional 13W3-I²S output. (SF itself had not yet released a transport with an I²S-E option.) My dismay increased after I discovered, through phone calls and e-mail to both companies, that each was using a different and incompatible version of the I²S transmission interface! (See sidebar, "I²S: Two Don't Always Tango.")

Despite this early setback, I had no problem at all adjusting to the P-3's extreme clarity, dynamic dexterity, and wide-band performance when using the AES/EBU and S/PDIF interfaces from either the Muse Model 5 transport or a modified Theta Data II. In any event, while I was steeped in house-building, most of my time with the P-3 was spent enjoying a vast array of music rather than doing in-depth analytical listening.

Phase Two began after I'd installed the astounding new quad-amplified Audio Artistry Beethoven Grand speaker system, with its all-active crossover, in the substantially larger listening room of my new home. This house has background noise somewhere on the order of Grant's Tomb, and, combined with the remarkable resolution and openness of these speakers, revealed subtle sonic variations between components that were simply buried at my previous digs. Accordingly, my discussion of performance issues will be restricted to my most recent experiences of the products in my new home. The picture was completed a few days after HI-FI '98, when the Transport 3 arrived and I could get down to business.

Despite the overall convergence of absolute sound quality between most competently designed transports and processors, sonic differences *do* exist between otherwise well-made top-tier gear. However, these differences tend to be very small. With this understanding, you can interpret my often liberal use of analogy in the proper context as I attempt to convey those portions of my experience that will most likely be translatable to your own. Therefore, while the following characteristics are shared to one degree or another by a number of other front-line digital components I've heard, Sonic Frontiers' Transport 3 and Processor 3 stood out from this select crowd in the areas of performance outlined below.

Sonic Delight: The Processor 3

The overall sound of Sonic Frontiers' Processor 3, using one of its standard non-I²S interfaces, was actually closer to that of SF's SFCD-1 (*Stereophile*, Vol.19 No.6) than to the SFD-2 Mk.II. The latter model had two principal shortcomings in its otherwise excellent performance: I often found its bass rendition a bit too bloomy and diffused, and its perspective was a little forward for my taste—even though that forwardness often made for some spectacular dynamics and rhythmic drive.

In contrast, the P-3 not only exceeded the large-scale dynamic articulation of

the SFD-2 Mk.II, but did so with notable refinements in low-level dynamic resolution, and with a more relaxed, though not too distant, spatial perspective closer to that of the SFD-1. I suspect that this fundamental improvement owes much to the P-3's ultra-low

noise floor. This ability to so effortlessly paint each instrument with just the right amount of dynamic shading within the larger context of the tempo's ebb and flow was a hallmark of the P-3, and often made listening to even mundane CDs an involving experience.

That the P-3 conveyed *awesome* transient delineation shouldn't be surprising in light of its world-class resolution of subtle contrast. Its stellar transient clarity and ultra-quiet background imbued music of all stripes with alluring tangibility and purity. This quality was revealed

I²S: Two Don't Always Tango

One of the key elements of Sonic Frontiers' new Series 3 digital components is the inclusion of an UltraAnalog-designed I²S-Enhanced interface. The original I²S (Inter-IC-Sound) bus found in nearly all CD players provides discrete pathways for the master, word, and bit clocks, as well as audio data signals as they travel between processing sections within a player, and eliminates the need for the transmission and receiver circuitry mandated by the AES/EBU or S/PDIF transmission schemes to connect two or more digital components, which is prone to jitter due to the fact that the word clock is embedded within the data.

The recent offerings of I²S interface options for two-box systems are derivations of this bus applied externally for inter-component, rather than inter-IC, communication. For example, the critical reference clocks and audio data each travel from a transport to a digital processor intact, on discrete lines, without suffering the inevitable degradation caused by bi-phase encoding, transmission, and subsequent decoding of the combined clock and data signals, as occurs with traditional interfaces. The result is a dramatic reduction in interface jitter.

Good examples of external I²S interfaces include the I²S-E and the original 13W3-I²S standard developed by Kevin Halverson of Muse, and now offered to other manufacturers by Digital Axiom Corporation as a ready-made solution in the form of drop-in modules. By using either scheme, the relative lack of interface jitter allows a designer to fully realize all the advantages of two-box construction. These include the isolation of critical decoding circuitry and the analog output stage from interaction with transport servos and unwanted power-supply coupling.

For the past year and a half I've listened extensively to systems equipped with I²S interfaces using 13W3 hardware. These include two separate Muse systems, and now the Sonic

Frontiers pair. In each case I've heard a significant enhancement of low-level detail and dynamic contrast, better focus and transient definition, and a notable increase in the perceived effortlessness of expression compared with any version of an AES/EBU or S/PDIF connection I listened to—so far, all great news.

However, as mentioned in the body of the review, there's a compatibility issue prospective buyers must be aware of. UltraAnalog branched off from the original 13W3-I²S specification to design their own version, as was certainly their prerogative. However, UA's employment of the same 13W3 cable and connectors (probably because they're ideally suited to the task) ensured the kind of consumer confusion and incompatibility between the 13W3-I²S and I²S-E schemes that I experienced.

I don't have the space here to explore all the technical details distinguishing the two now-competing versions of 13W3-based I²S designs. Instead, I'll look at my experience with the Sonic Frontiers version, and a few practical differences of interest to the end user. I'll take a closer look at the technical merits of the 13W3-I²S interface in an upcoming review of the Muse Model 8 and 296 DVD/CD system.

I went through a considerable "debugging" period with the I²S-E system in the Processor 3. In December '97 I was sent an SFT-1 transport equipped with the interface for use with the P-3. However, it wasn't yet ready for prime time—I couldn't get a clean signal lock. Sending the unit back to the factory failed to fix the problem, but by February '98 the bug had been fixed, and I installed a factory-supplied modification to the I²S-E circuitry within the P-3. Since then, the interface has worked great.

In May, Murphy's law returned in the form of a bug unrelated to the I²S issue: The SFT-1's front-panel controls began to consistently lock up,

forcing me to use another transport—until the T-3 arrived. Since then, I've not had a lick of trouble with the T-3 or the P-3.

As no digital rigs contain examples of the I²S-E and 13W3-I²S interfaces, it's impossible to directly compare the audible differences, if any, between them. Despite any claims to the contrary, when both systems are properly implemented, using their respective highest levels (in which the master clock is located in the processor and the transport is the slave), there should be little if any theoretical or practical sonic differences resulting from interface issues. In any event, what really matters to the listener is the overall experience from a given complete system, as discussed in the body of the review.

Curiously, the version of I²S found in the expensive SF gear uses the lower of two performance levels offered in the I²S-E specs; *ie*, with a transport-based clock and the processor in slave mode. Chris Johnson said they felt this was sufficient for the demands of CD, and that they would implement "Level One"—with the master clock in the processor—when the P-3 is updated for 24-bit/96kHz capability.

Regardless, you can rest assured that both the I²S-E and 13W3-I²S schemes work *extremely* well with CDs. However, since the Muse system plays DVDs and AADs as well, the 13W3-I²S specs have been optimized to address a number of that format's performance and legal requirements. The current specs of the I²S-E interface will need updating to address these issues prior to use in DVD-based systems. Just keep in mind that a 13W3-I²S interface found in other digital components will not work with Sonic Frontiers' new gear. Here's hoping they'll find a way to include compatibility in future iterations of their 13W3-based I²S interface.

—Shannon Dickson

by the ease with which I could hear the full expression of both complex transients and the most delicate harmonic decays even in the very midst of a powerful crescendo, and without the slightest smearing or congestion between of the two. Time and again, percussive and stringed instruments struck a perfect balance of stunning articulation and graceful rhythmic poise without ever seeming overbearing. Indeed, this was the best transient performance and dynamic contrast I've yet heard from CD.

The P-3's tonal balance was also very neutral to my ears, certainly more so than that produced by previous SF digital products. This unit was a thin sliver on the light side of neutral, but not even close to being bright or harsh when playing natural, well-made recordings. The P-3's bass performance was a big leap forward from that of the SFD-2 Mk.II. There was nary a hint of the P-3's tube pedigree apparent in the bottom end. The low to midbass was delicately textured and tuneful, yet capable of substantial impact and authority. I've heard one or two units whose overall low-frequency timbre is a shade richer than the P-3's, though I'd be hard-pressed to call it more accurate. The midrange was hard to fault by any standard, while the treble sounded more extended and open than any unit I've had in my system. Perhaps the combination of the processor's flat yet delicately nuanced upper treble, with its superb transient focus, contributed to the *slightly* light tilt of its overall tonal character.

Of course, most of these sonic traits are interrelated; in the P-3 they jelled to present a wide-open, continuous soundfield in the front half of my listening room that seemed uniformly alive, with a luminescent quality within which the correct physical proportions of instruments and vocalists were perceived. This was in contrast to the tendency to spotlight individual sonic images within their own immediate acoustic envelopes that can be heard from otherwise decent components that lack the last measure of ambience resolution I heard from the P-3. These soundstaging attributes were particularly apparent on supremely natural-sounding discs such as *Stereophile's* new *Duet* (STPH012-2). The opening track of Erwin Schulhoff's *Sonata for Solo Violin* teleports me every time to the Santa Fe chapel where this piece was recorded. Through the P-3, that feeling of genuine presence takes on an extra measure of realism.

Another example of the P-3's resolution prowess was in the alternating,

marchlike build up and release of musical tension throughout the opening title track of *Mephisto & Co.*, Reference Recordings' recent and *Witches' Brew*-like HDCD-encoded compilation (RR-82CD). I never heard the P-3 congeal or compress an orchestral climax. This is one of the fundamental shortcomings of lesser designs, and of earlier digital in general: when the going gets tough, the

I never heard the P-3 congeal or compress an orchestral climax, one of the fundamental shortcomings of lesser designs.

soundstage tends to smear and flatten, often becoming aggressive and shrill. Other HDCD recordings also sounded their best yet through the P-3. However, many of my favorite discs lack such encoding; using HDCD-encoded software when comparing this processor to models employing other digital filter techniques tends to stack the deck. Therefore, most of my direct comparisons with other components were done with non-HDCD recordings.

With the Transport 3

So far, all of my comments regarding the P-3 were gleaned from using one of two Muse transports (the Model 5 CD-only, and the new Model 8 DVD/CD spinner), my souped-up Theta Data II, or the PCM output on a Pioneer DV-500 DVD/CD player. Digital links were many, but I primarily used the Kimber/Illuminati Orchid and Cardas AES/EBU, as well as S/PDIF cables from Illuminati, MIT, Cardas, and Marigo.

Hooking up the Transport 3 to the Processor 3 showed the synergistic match between the two Sonic Frontiers components, even without the I²S-E connection. The T-3 driving other processors was truly formidable as well. Using standard interface options, I consistently experienced a degree of enhanced focus and a bit more solidity to sonic images and their acoustic environments compared to that from the other transports tested, regardless of the processor used.

However, the real news with the T-3 was the impact of connecting its I²S-E output to the P-3. I felt as if I'd just put on a new pair of glasses! Every virtue of a good I²S connection described in the accompanying sidebar was added to the

P-3's inherent attributes outlined above! Dynamic contrast and low-level harmonic details became even more focused, while the whole presentation took on a notably greater degree of ease and presence. Sibilants also sounded more natural. Without I²S-E, the T-3/P-3 combination is a definite contender for the brass ring among current Class A digital rigs. *With* I²S-E, the pair stand at the pinnacle of the CD hill, in my experience.

The Digital Conundrum

The compact disc no doubt has many good years of viability ahead of it, and I can't think of a better way of getting the most out of that format than by using both of Sonic Frontiers' new CD source components. Had their I²S-Enhanced-equipped Transport 3 and Processor 3 been available over a year ago, I could have easily recommended them without qualification to those searching for cutting-edge CD playback. It's obvious that I was smitten by their standard-setting performance, excellent ergonomics, and great looks. As it is, though, the watershed format changes now upon us add the following caveats to my recommendations.

Obviously, only well-heeled audiophiles, or those who simply *must* have the best and are willing to go deep into hock, will be in the market for a \$14,000 digital front-end. Evidence indicates that there are a fair number of music lovers in each category. For these groups, I readily endorse SF's T-3/P-3 combo as the highest example of the CD art I've heard so far. Indeed, if this fits your description, you should consider both products as a single-purchase, two-box CD player rather than as separates—that is, as long as you can envision owning a separate transport for CDs and another for DVD A/V discs, both of which could be connected to an upgraded Processor 3 when the proposed standards are fully sorted out and more hi-rez 96kHz software becomes available. There's also a far smaller category of very wealthy individuals who buy and sell top-tier components regularly for the sport of "having owned the best," and who will certainly want to add this combo to their quivers.

However, even though the Transport 3 is the best-sounding CD transport I've had in my system, and a true joy to operate, I can't endorse a \$6999 disc-spinner as a stand-alone unit for most audiophiles—particularly if they expect the transport to be upgradeable to DVD status. Such a mod would likely be very expensive and complicated, if not im-

Associated Equipment

Analog source: Immedia RPM-2 turntable and Unipivot arm, Sounds of Silence Crown Jewel cartridge.

Digital sources: CD transports: Sonic Frontiers SFT-1 with I²S-E, Muse Model 5 with 13W3-I²S, modified Theta Data II; Muse Model 8 DVD/CD transport with 13W3-I²S, Pioneer DV-500 DVD/CD player.

Digital processors: Muse Model Two-Plus, CD only, with 13W3-I²S; Muse Model 296, 96kHz, with 13W3-I²S; Theta Gen.V-A.

Preamplification: Z-Systems rdp-1, BAT VK-3i, Muse Model 3 preamplifiers; Jeff Rowland Design Group Coherence II preamplifier, Cadence phono stage.

Power amplifiers: Jeff Rowland Design Group MC-6 six-channel amplifier for tri-amping main speaker panels, two Model 6 monoblocks for driving a pair of subwoofers.

Loudspeakers: Audio Artistry Beethoven Grand.

Cables: Interconnects: Cardas Neutral Reference, BEL The Wire, Discovery Signature, Immedia phono. Digital interconnects: Cardas AES/EBU, Kimber Illuminati Orchid, Marigo Reference, Discovery, MIT, AudioQuest for both AES/EBU and ST-Optical, Aural Symphonics AES/EBU, BNC, and ST-Optical. Speaker cables: Cardas Golden Cross, TARA Labs Decade, Discovery, Nordost Red Dawn, Goertz. Power cords: Cardas, Audio Power, Marigo Reference.

Accessories: Arcici Suspense isolation stand, Mike Fredericksen stands, Townshend Seismic Sinks, Signal Guard platform, D'Feet isolation pucks, ASC Tube Traps, Vibraplane pneumatic isolation platform (turntable), Newport Benchtop pneumatic isolation platform with Jun-Air compressor (transports), Audio Power Ultra Wedges 112, 115, 116, PE-II.

— Shannon Dickson

possible. Instead, I suspect that SF will incorporate many of the advances seen in the T-3 into an entirely new DVD-based model in the near future.

The Processor 3, on the other hand, has such well thought-out modularity, such low inherent jitter, such a quiet noise floor, and such world-class sonics that it easily earned five stars with a bullet as a stand-alone unit for playing CDs. I'm also confident that it will provide a solid platform for DVD-based audio processing when SF and you are ready to make that jump. In addition, though Sonic Frontiers' I²S-Enhanced interface will likely require some modifications to comply with the demands of the new format, it's perfectly fine for the CD medium.

A final category of audiophile for whom the P-3 is particularly suited are those who either own or can buy a used SFT-1 transport or SFCD-1 player, both of which SF will upgrade to I²S-Enhanced status for \$700, including cable, daughterboard, and sheet-metal modifications. (It's well worth it.) While that won't match the ultimate performance of the T-3/P-3 combo, it'll get you very close indeed.

Has Sonic Frontiers really outdone themselves again? Yes, indeed! ☒

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Arcam Alpha MCD 6-disc CD changer

Think about it for a second: If you could buy a six-disc CD changer that sounded every bit as good and was built just as well as a similarly priced single-disc player, would you be interested?

There are lots of good reasons to consider a CD changer. One that occurred immediately to me was that I work at home a lot, often spending evenings catching up on reading and paperwork. I rarely work to music because deciding what to listen to and changing discs shifts my focus from what I'm doing to the music. A changer might be a perfect solution. Other reasons popped into my head as well: auditioning a stack of new CDs, for example, or providing music for workouts or parties. And what about audiophiles who share their space — and system — with family members who aren't into the mode of fully engaged, in-the-sweet-spot listening?

On the flip side, the high-end community seems to have a prejudice against changers — as if the whole concept of a high-end changer is oxymoronic. If a changer's role is to provide several hours of uninterrupted music to an inattentive audience, why pay for high-end performance? The High End is about totally engaged listening, after all, and getting the highest possible fidelity out of every dollar spent. A changer's mechanical complexity translates to higher build cost, so something — the sound — has got to give, right?

But what if you could have your cake and eat it too? What if you could break or even bend the rules, and get a multi-disc changer that sounded as good as similarly priced single-disc players? Put another way, how close would a changer's performance have to be to a single-disc unit's to tip the scale in favor of the added versatility?

Enter the MCD

Arcam poses exactly these questions with their Alpha MCD. Priced at \$999, the MCD combines much of the technology and build quality of Arcam's highly acclaimed Alpha 7, 8, and 9 single-disc units with "the convenience of a whole evening's listening pleasure with-



Arcam Alpha MCD CD changer

out having to change discs yourself."

The Arcam's pedigree is excellent, its specs first-rate. The MCD starts with a Sony transport mechanism and a 20-bit digital filter and DAC from Crystal Semiconductor. There are "eight separately regulated power supplies, a low-jitter master clock situated close to the DAC, and high-performance analog output stages." All of the audio circuitry is built on a single fiberglass board; the control circuitry is mounted on a separate board right behind the front panel. A peek under the hood shows that everything is tidy and well laid out. Unlike Arcam's single-disc players, the MCD cannot be upgraded with either the replacement or the addition of a higher-performance internal DAC — the only upgrade path

is via the coaxial digital output.

The Arcam's cosmetics are straightforward and understated, and match the other models in the Alpha line. The front panel is dominated by the disc drawer on the left and the display on the right, both having an unusual curved bottom edge. This curve is echoed on the faceplate's bottom edge, and gives the MCD an interesting, slightly softer appearance than is usual. Front-panel controls include an array of buttons for the usual functions: Power, Load (open), Stop, Play/Pause, Track selection, Repeat, Program, and Shuffle. The only clues that the MCD is a changer are the two buttons to increment or decrement the disc number.

All functions are controllable from the remote. (Because the remote applies to other Arcam models as well, it has

Description: Six-disc CD player with analog and digital outputs and full-function remote control. D/A conversion and digital filter: Crystal Semiconductor 20-bit. Output complement: two pairs of single-ended (RCA) analog outputs, one S/PDIF (RCA) digital output. Analog output impedance: 75 ohms. Other: electrical bus interface for use with Arcam multiroom systems. Frequency response: 20Hz–20kHz, –0.5dB. S/N ratio (CCIR): >105dB. THD (0dB, 1kHz): <0.005%. Output level (0dB): 2.3V. Power consumption: 20VA max. **Dimensions:** 16.9" (43.0cm) W by 4.9" (12.5cm) H by 11.4" (29.0cm) D.

Shipping weight: 11 lbs (5.1kg).

Serial number of unit reviewed: ACMB00127.

Price: \$999. Approximate number of dealers: 80. Warranty: 2 years, parts and labor.

Manufacturer: Arcam, Pembroke Avenue, Waterbeach, Cambridge CB5 9PB, England, UK. Tel: 44 (0) 1223 203203. Fax: 44 (0) 1223 863384. E-mail: custserv@arcam.co.uk. Importer: Audiophile Systems, Ltd., 8709 Castle Park Drive, Indianapolis, IN 46256. Tel: (317) 849-5880 Fax: (317) 841-4107. Web: www.aslgroup.com.

buttons to control volume, which don't apply to the MCD.) Overall, fit, finish, and build quality are very good, but not extravagant.

Systems & setup, tweaks & tricks

After a 200-hour burn-in period using the *Sheffield/XLO Test & Burn-in CD* (Sheffield Labs 10041-2-T), I put the MCD through its paces in a couple of systems, and with a wide variety of music. Most of the time, however, I used a system consisting of a Sonic

Frontiers Line 3 line stage, VTL Ichiban amplifiers, and Magnepan's new 1.6 Q/R speakers. The cables were Nirvana S-L from the line stage to amplifier, and MIT MITerminator 2 biwire between the VTLs and the Maggies.

The listening sessions also included the \$895 Ultech UCD-100 player I reviewed in the July '98 issue, the \$1595 California Audio Labs CL-15, and two old favorites: the \$495 Parasound CDP-1000 and \$595 CAL DX-2. The bulk of my listening was done using Kimber KCTG cables

between the CD players and line stage, but the MCD/Sonic Frontiers combination also worked well with several less expensive cables. Two particularly good matches were Synergistic Research's \$175/m Alpha Sterling and Belkin's new \$40/3' Platinum Synapse.

Following *Stereophile's* "review as delivered" policy, I tested the Arcam sans tweaks, the only exceptions being Sorbothane feet underneath and a Bright Star Little Rock on top. The feet were specifically recommended in the

Measurements

The Arcam Alpha MCD's output impedance measured a low 123 ohms over most of the audio band, increasing to 600 ohms below 20Hz. This is still low enough that there should be no problems of lightweight bass with the preamplifiers with which the player will typically be used. The player's analog output is absolute polarity-correct, and the maximum output level at 1kHz was 2.5V, almost 2dB above the standard 2V RMS. As BD noted, the left and right outputs were reversed on this sample.

The MCD's error correction was only fair; the player tracking up through track 31 on the Pierre Verany Test CD without any problems. Dropouts started to occur on track 32, however, which has 1.25mm gaps in the data spiral.

The top trace in fig.1 shows the MCD's frequency response at full level: the bass is flat down to 20Hz, reaching -0.5dB at 10Hz, while the treble has a subjectively inconsequential droop to -0.25dB at the upper band edge. The bottom pair of traces shows the response with de-emphasis switched in; the error—a maximum of -0.3dB at 16kHz—will make those few CDs that are pre-emphasized sound very slightly laid-back. (This might be a small error, but the bandwidth covered is large, meaning

that "the area under the curve"—the missing treble energy—is also large, hence audible.) The channel separation (not shown) was around 80dB in both directions, with the right-to-left bleedthrough slightly lower than the left-to-right.

Fig.2 shows a spectral analysis of the player's output while decoding data representing a dithered 1kHz tone at -90dBFS. The noise floor is higher than usual, and there are hints of some second- and third-harmonic distortion apparent. Note also the peak at the power-supply frequency of 120Hz. I tried various grounding schemes between the Arcam and the Audio Precision test setup, but this was the best I could do. However, this hum is still low enough in level that it's unlikely to be audible (except, perhaps, with very sensitive speakers).

Repeating this measurement, but changing the signal to "digital black" and extending the bandwidth to 200kHz, gave the spectrum shown as the lower pair of traces in fig.3. The high-frequency noise drops dramatically compared with fig.2, implying that the DAC actually mutes its output when it detects this special signal. I confirmed this by changing the signal to one representing a minuscule DC offset of

-1LSB, which lifted the DAC muting. Now I got the upper pair of traces in fig.3, which reveal the massive amount of noiseshaping needed to achieve CD resolution from a 1-bit DAC. The noise boost takes place well above the audio band, but I do wonder how this might affect marginally stable amplifiers that might be used with the Arcam.

Fig.4 shows the right channel's linearity error, plotted against absolute amplitude. There is a slight amount of negative error apparent at -90dBFS, this correlating with the distortion shown in fig.2, but the relatively high noise level results in apparent positive error below that level. The left channel was a bit better in this respect. The noise can also be seen in fig.5, which shows the waveform of an undithered 1kHz tone at

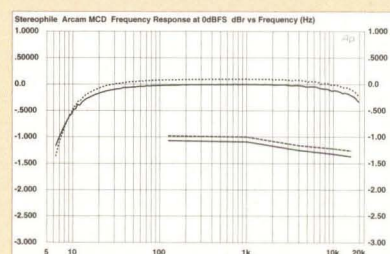


Fig.1 Arcam Alpha MCD, frequency response at 0dBFS (top) and de-emphasis response (bottom) (right channel dashed, 0.5dB/vertical div.).

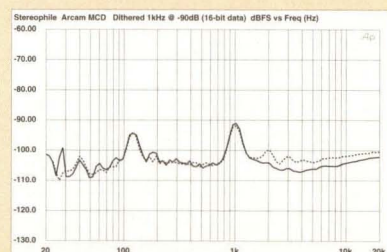


Fig.2 Arcam Alpha MCD, spectrum of dithered 1kHz tone at -90.31dBFS, with noise and spurs (16-bit data, right channel dashed).

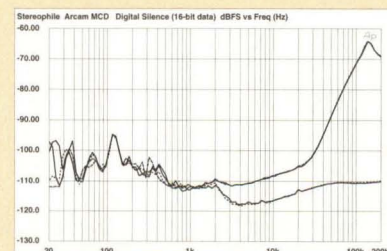


Fig.3 Arcam Alpha MCD, spectrum of digital silence (bottom above 2kHz) and of data representing a -1LSB DC signal (top above 2kHz), with noise and spurs (16-bit data, 1/3-octave analysis, right channel dashed).

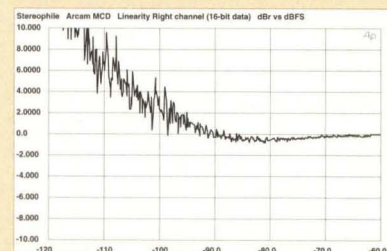


Fig.4 Arcam Alpha MCD, right-channel departure from linearity (2dB/vertical div.).

MCD's manual, and the Little Rock helped stabilize the lightweight MCD with respect to stiff cables. The effect of the combination wasn't huge, but it did open up the space around images a bit, and improved clarity and image dimensionality. Prior to each play, CDs were treated with Nordost ECO3 antistatic fluid (label side) and Music Fidelity's DiscSolution (data side). Though I didn't use it for the bulk of my listening, I found that adding a Synergistic Research AC Master Coupler made a

noticeable improvement: less grunge, better resolution of low-level detail, and cleaner overall sound.

Phase One: The MCD as CD changer

I love nifty mechanical widgets—I'm an engineer—and let me tell you, the Alpha MCD is one nifty widget. First of all, it looks and operates just like a standard single-disc front-loader. Instead of the typical carousel, the MCD uses a unique internal shuttle mechanism sourced from Sony. The shuttle has six positions: five storage

slots and the active position, which is linked to the transport/drawer mechanism. The active position is selected using the Disc Number buttons on the front panel or remote.

As long as you don't change the disc number, you'd never know that the MCD is a changer. Push Load and the drawer slides out smoothly. Set a disc in the well, push Load again, and the disc slides in and is cued up.

On the other hand, if you select a different disc number, the current disc is

–90.31dBFS. At this level, the waveform should be reproduced as a toggling among three distinct levels, with some overshoot apparent at each bit transition. This is obscured by the Arcam's noise floor, however.

With respect to high-level linearity, the Alpha MCD offers very low levels

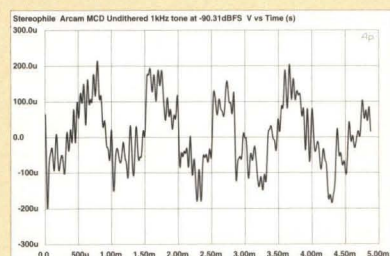


Fig.5 Arcam Alpha MCD, waveform of undithered 1kHz sine wave at –90.31dBFS (16-bit data).

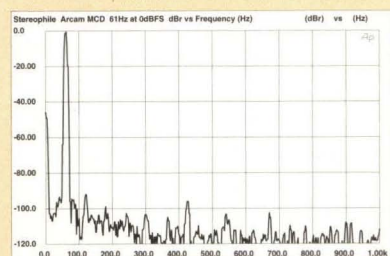


Fig.6 Arcam Alpha MCD, spectrum, DC–1kHz, 61Hz at 0dBFS (linear frequency scale, 20dB/vertical div.).

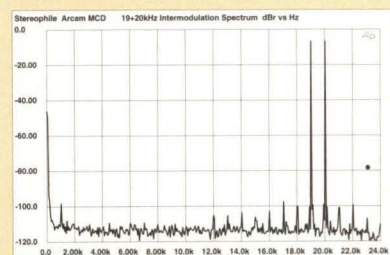


Fig.7 Arcam Alpha MCD, HF intermodulation spectrum, DC–22kHz, 19+20kHz at 0dBFS (linear frequency scale, 20dB/vertical div.).

of distortion. The spectrum of a full-level 61Hz tone can be seen in fig.6—the only harmonics poking their noses above the –100dBFS line are the second, third, and seventh. Similarly, the MCD produced very low levels of intermodulation products when playing back an equal mix of 19kHz and 20kHz tones, each at –6dBFS (fig.7).

I assessed the MCD's jitter performance using the Miller Audio Research Analyzer, which is based on a National Instruments data-acquisition card in a host PC. The CD player being tested plays a special CD-R containing an 11kHz tone with a peak level of –6dBFS, overlaid with a low-level squarewave that toggles the LSB on and off at a rate of 229Hz. Fig.8 shows a narrow-band spectral analysis of the MCD's analog output centered on the 1kHz component, with symmetrical pairs of spectral compo-

nents due to the player's jitter.

The absolute clock error was reasonable, at +65ppm, though the absolute jitter level was quite high: 1451 picoseconds. Almost all of the measured jitter (1289ps) is due to the 120Hz-spaced sideband, marked with a dark blue “3.” There are also some 60Hz and 180Hz sidebands (brown markers “2” and “4,” at 99.6ps and 73.5ps, respectively). The second-highest jitter components (purple “9”) are spaced 360Hz to either side of the fundamental; I have no idea what these are due to. Data-related jitter (red markers) is very low, however.

Predicting the subjective effect of a jitter pattern such as this is hard. However, the 60Hz sidebands might add a thickening of the bass, and might also contribute to the softening of transients noted by Brian Damkroger in his auditioning.

—John Atkinson

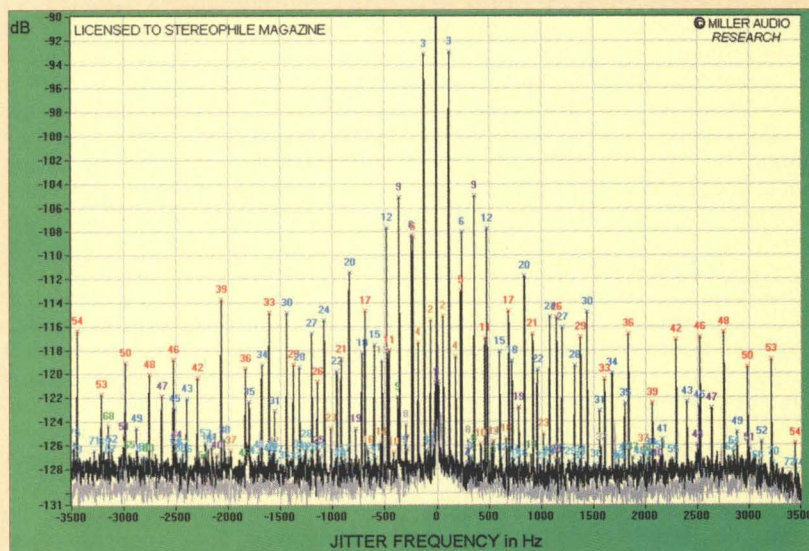


Fig.8 Arcam Alpha MCD, high-resolution jitter spectrum of analog output signal (11kHz at –10dBFS with LSB toggled at 229Hz). Center frequency of trace, 11kHz; frequency range, ±3.5kHz. (Grayed-out trace is the Meridian 508-24.)

Associated Equipment

Analog playback: VPI TNT turntable, JMW Memorial tonearm, Benz-Micro LO4 phono cartridge; Well Tempered Reference Record Player, Clearaudio Gamma Gold phono cartridge.

CD players: Parasound CDP-1000, Marantz CD63SE, CAL CL-15, CAL DX-2.

Preamplification: Sonic Frontiers Phono-1 and AcousTech phono preamps, Sonic Frontiers Line-3 line stage, VAC CPA1 Mk.II preamplifier.

Power amplifiers: VTL Ichiban, VAC Renaissance 70/70.

Loudspeakers: Audio Artistry Dvorak, Magnepan 1.6 Q/R, Thiel CS2.3, Gershman Acoustics Avantgarde.

Cables: Kimber KCAG, KCTG,

PBJ, Silver Streak, and Bi-Focal XL; Nirvana S-L; Synergistic Research Resolution Reference and Alpha Sterling; Nordost Blue Heaven and SPM; MIT MITerminator 2 and 5.

Accessories: Bright Star isolation systems, PAC Super IDOS and Nirvana AC isolation and AC delivery systems, VPI and Disc Doctor LP-cleaning products, Nordost ECO3 and Music Fidelity DiscSolution CD treatments, Tiptoes, Sorbothane pucks, Sumiko Fluxbuster, *Sheffield/XLO Test & Burn-in CD*, Synergistic Research A/C Master Couplers and Reference Master Couplers, Echo Busters room-treatment products, and VPI, Standesign, and Merrill equipment stands. —Brian Damkroger

moved from the transport well into its assigned slot in the internal shuttle mechanism, and the new disc number becomes active. If it already contains a disc, that disc is cued up. If it's empty, the display indicates the new position and reads NO DISC. Similarly, when you push the Load button, the drawer will either come out empty or bearing the disc previously loaded into that shuttle position.

Each time you select a different disc, the cycle repeats itself: The current disc is moved from the transport to its spot in the internal stack, and the new shuttle position becomes active. It may sound complicated, but it's actually simple, logical, and elegant. When I showed the MCD to several engineer friends, the cycle—load a disc, advance the disc number, push Load, watch the disc carrier come out empty—never failed to elicit admiration. One nifty widget!

The Arcam functioned perfectly throughout the review period. One disc, multiple discs, Play, Stop, Shuffle... you name it. The only functional flaw I observed was that the channels were reversed at both sets of analog outputs. Other than that, no failures, no glitches. It also scored highly in user-friendliness. Both the front-panel controls and the remote are logically laid out, with all operations completely intuitive.

The Arcam excelled in background music mode, risking failure only in that its sound flirted with being too engaging to remain in the background. Several times during the review period I found myself home alone in the afternoon, waiting for Nick, our air conditioning repairman. I would load six new CDs into the MCD,

hit Play, and work, catch up on reading or correspondence, pay bills, whatever. Time would pass, Nick would find the latest set of not-quite-terminal problems, and I'd do my work amid the music.

Even with the music turned way down to avoid distraction, the Arcam's performance was unfailingly enjoyable. I was always struck by how good the system sounded when the Arcam was playing: smooth and musical. No grunge, no glare, no screechy, hashy highs, no whumpy, one-note bass... just an engaging, natural sound. The tonal balance was even: good weight on the bottom, an articulate, detailed midrange, and smooth, extended highs. Ditto for the MCD's handling of macrodynamic transients. There was a good sense of punch and speed throughout, and no particular part of the musical spectrum jumped out unnaturally. The soundstage was wide and reasonably deep, and the images were large and solidly positioned, with a good sense of dimensionality and body.

As a tribute to the MCD's performance, essentially all of the new CDs I listened to struck me as good enough in both sound and content to merit additional, more serious, listening. On a few occasions the sound became so distracting—in a good sense—that I had to stop whatever I was doing and just listen. On the Sonny Rollins Quintet's *Rollins Plays for Bird* (JVC JVCXR-0055-2), I gave in halfway through the "I Remember You" segment in the opening medley. I just kept forgetting the technical paper I was reading, the better to follow Rollins' tenor lines.

Another disc that pulled me into the listening chair was the Mobile Fidelity reissue of Stevie Ray Vaughan's *The Sky is Crying* (UDCD 723). I've heard this music umpteen times—I'm a big SRV fan, and I've used the LP and commercial CD in reviews for years. It seemed like safe background music.

Nope. Thirty seconds into the opening track, "Boot Hill," I was in the listening chair; whatever I'd been reading wasn't even a distant memory. In that case, I was struck by how ballsy the system sounded—the solidity of the images, the density of the tonal colors—and the sense of coherence and balance between guitar, bass, and vocals. I'm sure that the MoFi gold treatment was part of the magic, but the Arcam certainly did it justice.

Like any multidisc unit, the MCD is programmable every which way, giving you the capability of programming up to 16 tracks on any combination of discs. To test the MCD's programming functions, I carefully scored and programmed a soundtrack for one of my afternoon workouts. First, I started with sit-ups and crunches to Steely Dan's "Do It Again" and the Charlie Sexton Sextet's cover of "Long Cool Woman in a Black Dress," both from the *Air America* soundtrack (MCA MCAD-6467). Next it was legs—squats, extensions, curls—done to three consecutive versions of *In-A-Gadda-Da-Vida* off the sensational MoFi re-release of the Iron Butterfly classic (UDCD 675). (I do lots of legs, but not 40 minutes' worth. I got a Coke during the drum solo.) Then it was on to dumbbell presses, bench presses, and flies, backed by the *Cocktail* soundtrack (Elektra 60806-2): the Georgia Satellites doing "Hippy Hippy Shake," "Kokomo" by the Beach Boys, and John Mellencamp's version of "Rave On." Sister Hazel's *Somewhere More Familiar* (Universal UD-53030) was the soundtrack for seated rows and lat pull-downs, in particular "Just Remember" and "All for You." Billy Idol's "White Wedding, Parts I & II" and "Mony, Mony," both from *Vital Idol* (Chrysalis VK 41620), went with biceps curls and triceps pull-downs. Last but not least, I cooled down and finished my soda to a John Fogerty mini-concert: "Rockin' All Over the World," "Almost Saturday Night," "Who'll Stop the Rain," and "Travelin' Band," all from his killer live disc, *Premonition* (Reprise 46908-2). Cool, way cool.

Phase Two: Listening for real

The Arcam having emerged from the

first phase of testing with top marks, I switched to serious listening, using the MCD in single-disc mode and comparing it to some of the best players I've heard near its price. All of the strengths noted above—the smooth, natural sound, the wide soundstage, the good overall balance and detail—came through here as well. A good example, typical of my listening sessions, was “Blue Friday” from Kenny Dorham’s *Quiet Kenny* (JVC JVCXR-0049-2). This is a sensational XRCD reissue of a 1959 Rudy Van Gelder recording, and the Arcam did a great job of reproducing the trumpet tone and intricacies and the surrounding cushion of air that are captured so beautifully in RVG recordings. There was excellent bass weight and pitch, a detailed midrange, and smooth, even highs. Similarly, the overall soundstage was reproduced well and populated with solid, firmly fixed images. Overall, my impression was “good sound, great recording.”

The Arcam is in an extremely competitive market segment, however, with great-sounding players like the Ultech and Rega Planet at or below its \$999 price. If the budget is stretched a bit, the competition gets tougher still, with the CAL CL-10 and CL-15, and Arcam’s own Alpha 8 and 9, to be considered. Although it’s a solid performer, the MCD can’t quite match up to the competition in a couple of areas that I find critical to high-end performance. The most obvious difference between the MCD and some of the other players was that the others were slightly but noticeably more vivid and involving. The Ultech and CAL CL-15, for example, were clearer and more precise, sounded more dynamic, and uncovered more low-level and inner detail.

Vocals particularly highlighted the difference in detail. For example, Johnny Copeland’s vocals on “Bring Your Fine Self Home” (*Showdown*, Mobile Fidelity UDCD 620) have a deep, wonderful rasp as he moves down in his range, and there’s an impressive sense of body and power. Some phrases seem to explode sharply out, with a tangible rush of air. On others, his volume and pitch modulation are so subtle they’re barely perceptible. With the Arcam, there wasn’t as good a sense of a mouth, throat, and chest as there was with the other units. Copeland sounded slightly forced, thin, and washed-out in comparison. His all-out belts never seemed to reach below the top of his throat, and the microdynamic subtleties were lost altogether. At the opening of “Bring Your Fine Self

Home” there’s a vocal exchange between Copeland and Albert Collins. With the Arcam, the subtleties and characteristics of the two voices were blurred, coming perilously close to sounding like one person ping-ponging from one side of the stage to the other. With orchestral recordings there was a sense of individual instruments within a section, but they weren’t as distinct as they can be with other players, or are live.

Although it’s a solid performer, the MCD can’t quite match up to the competition in a couple of areas that I find critical to high-end performance.

Part of the loss of detail was due to a slight softening of hard transients. On the Classic reissue of Shostakovich’s Symphony 1 (RCA LSCCD-2322), the MCD was certainly enjoyable to listen to, with a relaxed, musical sound. Compared to units like the Ultech and CAL, however, its presentation was slightly softened and homogenized, with less of the spark and energy of a live performance. Plucked double basses and timpani had the proper weight and excellent pitch definition, but the initial strike was diminished. Cellos had a natural, woody tone, but their runs were slightly indistinct, as if slightly out of focus. The crescendos just didn’t have the power they should, and sharp transients, like the trumpets bursting out from the rear of the stage, lacked impact. The Arcam’s high-frequency shortcomings were particularly noticeable. On the Shostakovich, for example, the triangle “clinked” instead of rang, and just didn’t cut through above the orchestra as it should. Another example was the Arcam’s reproduction of cymbals—on *Rollins Plays for Bird*, for example, they sounded slightly coarse and flat. The initial attack wasn’t sharply defined, and the shimmering decay was oddly abbreviated, instead of continuing to spread out and fill the surrounding space.

Tracy Chapman’s “Give Me One Reason” (from *New Beginning*, Elektra 61850-2) was another cut where the Arcam’s performance was credible and involving, but lacked the power, detail, and sense of body that the Ultech UCD-100, for example, produced. With the

MCD, Chapman’s vocals lacked some of her characteristic, captivating low-level subtleties, and the wide, lightning-fast dynamic swings lacked their usual punch. The drums at the opening—which can be startling in their impact with some players—didn’t explode with the MCD. Similarly, the guitar chops just didn’t have the sharp rip that they do with other players, or that I hear in a jazz or blues club downtown.

Music is not all ripping guitars and exploding drums, true, but the Arcam also noticeably softened the dynamic transients at the other end of the musical spectrum. On the Panocha Quartet’s reading of Dvorák’s String Quartet 12 (Supraphon 11 0581-2), the MCD produced a wonderfully rich string tone and a lovely sense of interplay between the instruments. There was a great sense of individual instruments playing together while each retained its own character and space. There was also, however, a noticeable softening of dynamic transients. Bow strokes had a nice rosinous character, but not the bite—there was a distinct sense of the leading edge of the transients being softened. Even more gradual, large-scale dynamic swings got short shift. At one point near the finale, both the volume level and pace gradually increase with an almost gravitational pull. With the Arcam, the pace and level changes were there, but not the pull.

Finally, soundstage re-creation, and the size, specificity, and dimensionality of images, were additional areas where the MCD’s performance was good, but not up to the standards set by the best of the competition. The Arcam did an undeniably nice job of re-creating the original acoustic environment on the Shostakovich Symphony 1. It reproduced the recorded ambience well, and laid out the orchestra on a wide if somewhat foreshortened soundstage. Images were reproduced with good balance of detail and coherence. Switching to another player did, however, add more depth and a better sense of front-to-back layering. The other players also produced images that were slightly more sharply focused and more reasonably sized. In some cases the Arcam’s images could seem a bit too wide and tall, and just slightly out of focus.

You pays your money and you takes your choice

As a multidisc changer the Arcam Alpha MCD gets top marks. It’s clever, a delight to use, and—in background music mode—wonderful to listen to. The only complaint I had was that if I

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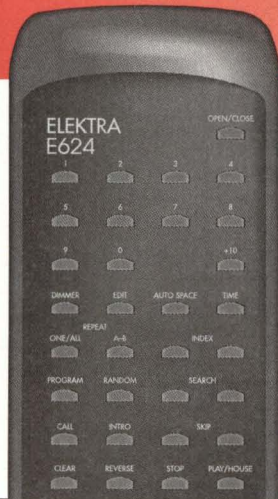
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wasn't careful, the background music wouldn't stay in the background; I'd find myself plopped in the listening chair. No bones about it, I enjoyed the MCD immensely in this mode. Even as I write, I'm amid a six-disc Shuffle session, and Louis Armstrong is beckoning to me with "Let's Do It" from *Ella and Louis Again* (Mobile Fidelity UDCD 2-651). Regardless of what he's actually singing, the message is clear: "Forget the deadline, Brian, and listen to some music."

**If you're a listener
who's set on a changer's
versatility and convenience,
the MCD should be on
your list of candidates.**

Pitted against the best \$1000 single-disc players I've heard in a pure sound-for-dollar contest, the Arcam MCD is somewhere in the C+ to B- range. Overall, its sound is smooth, natural, and musical, and, taken on its own, quite enjoyable. Based on my experience with some of the better \$500 players, I'd put the MCD's performance among or slightly above the best of these, a group that includes the Marantz CD67SE, the CAL DX-2, and the Parasound CDP-1000.


Compared to the best players that you can find surrounding its \$999 price, however—including Arcam's own 8 and 9—the MCD falls short in detail, dynamics, and dimensionality. Listening preferences vary, but for me, these attributes distinguish a good component from a great one. These are the subtleties that move a listening session from "enjoyable" to "engaging and involving."

Whether or not the MCD will work for you will depend, of course, on your listening preferences and on how heavily you weight the two aspects of its performance. Though it's sensational as a changer and I thoroughly enjoyed my time with it, in the end, it's not for me. I don't weight the changer function heavily enough to accept the performance/price compromise, and the specific sonic areas in which the MCD falls short figure prominently in my listening preferences. For my \$1000, I'd opt for one of the super-sounding players that have recently hit the market.

On the other hand, if you're a listener who's set on a changer's versatility and convenience, the MCD should be on your list of candidates—particularly if its sonic perspective is a match for your listening preferences. ☒

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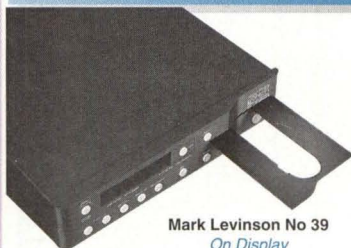
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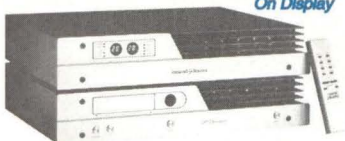
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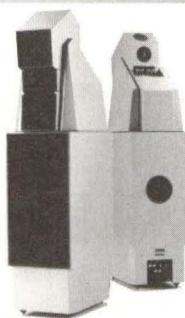


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Revel Ultima Gem loudspeaker & Ultima Sub-15 subwoofer

A dream I have had since I discovered the pleasures of music is to possess a time machine. Not a fancy one, just a small device that would allow me to escape modern music-making and drop in to hear what must have been some of the greatest musical experiences of all time. Classical music presents no problems: Off to 18th-century Leipzig on Sunday, of course, to hear J.S. Bach play the organ in church, after an early 19th-century Saturday evening spent in Vienna listening to Beethoven improvising at the pianoforte. During the week it would still be Vienna, but forward 80 years or so to hear Brahms premiere one of his chamber works after afternoon cocktails at the Wittgensteins', with perhaps a trip to England's Three Choirs Festival just before the Great War to hear the first performance of Elgar's *Dream of Gerontius*. And the time machine would have to have transatlantic range—I

couldn't miss Mahler conducting the New York Philharmonic around the same time. But with jazz and rock—music that is reborn every time in performance to a greater extent than in classical—there is a bewildering choice of live events from which to choose.

But of course, those musics *are* provided with a time machine: the recording angel that has captured so many concerts on tape and disc. That, to me, is what being an audiophile is about—being able to cocoon in your listening room after a hard day's wage-slaving, pour yourself a glass of your favorite tippie, get comfortably ensconced in your special chair, and be transported to attend whatever concert catches your fancy, whether it be Miles Davis' "Birth of the Cool" nonet at New York's Royal Roost in September 1948, the Who at Leeds University in February 1970, or Van Morrison's best performing band ever in San Francisco in December 1993.

And for that time machine to work effectively, you'd better fit it up with a good pair of speakers. Since 1994, the B&W Silver Signatures most often painted the soundstages in my listening room, with Thiel CS6es seeing service since Christmas 1997. And this summer I have been using a pair of Revel's Gems, either on their own or augmented with Revel's Sub-15 subwoofer powered by a Revel LE-1 crossover/amplifier.

The Ultima Gem

When Revel's chief engineer, Kevin Voecks, was at Snell Acoustics, he produced a series of fine speaker designs that, while each was designed to a price, handily outperformed most of the competition. When he was asked to join startup company Revel, it appears that he was given carte blanche for the company's first design, even down to designing and manufacturing dedicated drivers for the Gem with the resources of Revel's

Revel Ultima Gem: Two-way, stand-mounted loudspeaker with rear-facing reflex port and second tweeter. Drive-units: 1.1" fabric-dome tweeter, 0.75" rear tweeter, two 5" metal-cone bass/midrange drivers. Measured crossover frequency: 2.3kHz. Frequency response: 70Hz–15kHz, ± 1 dB of target curve; -10 dB at 39Hz (2-pi anechoic measurement). Nominal impedance: 6 ohms, 4 ohms minimum. Sensitivity: 87dB/W/m. Power handling: not specified.

Dimensions: 19.5" (496mm) H by 8.375" (213mm) W by 17.375" (442mm) D. Weight: 40 lbs (18.2 kg) each with wood side panels; 48 lbs (21.8 kg) each with aluminum side panels.

Serial numbers of units reviewed: 1337 and 1357, auditioning; 1240, measuring.

Prices: \$6000/pair in matte black finish, with rosewood, light oak, black ash, or unfinished panels. The (unlikely) combination of matte black paint and aluminum panels is \$6800/pair. Gems with high-gloss paint (Midnight Blue, Piano Black, Forest Green, Heather

Gray, Revel Red), with rosewood, light oak, black ash, or unfinished panels: \$7200/pair. Gems with high-gloss paint and aluminum panels: \$8000/pair. Gem pedestals: \$1500/pair with wood bases, \$2200/pair with aluminum bases.

Revel Ultima Sub-15: Passive subwoofer. Drive-unit: 15" woofer with a Kevlar/kapok-impregnated cone. Frequency response: 20Hz to the crossover frequency, ± 0.5 dB, -3 dB at 16Hz, up to full rated power.

Dimensions: 20" (508mm) H by 19.6" (498mm) W by 21.125" (537mm) D. Weight: 95 lbs (43.2 kg) shipping, plus side panels.

Serial number of unit reviewed: 1169.

Prices: \$2500 each, matte black paint with wood panels; \$3200, matte black with aluminum panels; \$3800, high-gloss with wood panels; \$4500, high-gloss with aluminum panels.

Revel Ultima LE-1: Dedicated monophonic subwoofer amplifier with

remote control of volume and EQ, front-panel LED display, FM-1 filter module, balanced and unbalanced line-level inputs; unbalanced and balanced line-level, high-pass-filtered outputs; two sets of speaker outputs in parallel. Specified output power: 725W RMS into one Sub-15; 1200W RMS into two Sub-15s. Low-pass filter: 4th-order (24dB/octave) Linkwitz-Riley with $f_c=80$ Hz. (Custom modules available.)

Dimensions: 17" (432mm) W by 7" (178mm) H by 21.5" (547mm) D. Weight: 103 lbs (47 kg) shipping.

Finish: silver-anodized aluminum with black heatsink fins.

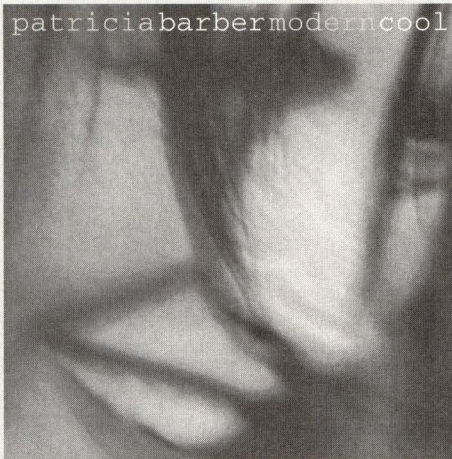
Serial number of unit reviewed: 1151.

Price: \$6000.

Common to all three: Approximate number of dealers: 40.

Manufacturer: Revel Corporation, 8500 Balboa Blvd., Northridge, CA 91320. Tel: (818) 830-8777. Fax: (818) 892-4960. Internet: www.revelspeakers.com.

patriciabarbermoderncool



PATRICIA BARBER: MODERN COOL

After the wild success of Patricia Barber's **Café Blue** (Record to Die For – available on Music Direct LP or CD), the dreamy chanteuse follows with **Modern Cool**. The challenge, says Barber, is “trying to discover how the brilliance and brutality of ‘modernism’ left us in this particularly eclectic, fragmented and possibly dangerous ‘post-modern’ era.” Not only one of the most anticipated and important jazz releases of the year – with the same Chicago quartet from **Café Blue** (plus trumpet) – but another arresting sonic triumph as well. “People need music now,” says Barber. “They need music that speaks to their souls, not just their heads.”

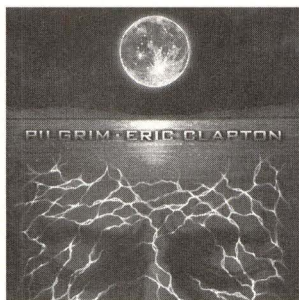
Why “Modern Cool”? Barber says she told her friends that she would “leave the 20th century kicking and screaming.” Millions, she says, died fighting for their ideals, and now “the dominant ideology [is] an empty materialism.” It's Barber's clear-headed reductionism at its finest.

Now, at last, one of the world's great modern jazz artists will see simultaneous LP and CD releases! If you read Michael Fremer's comments about Barber's last album, you already know that the LP creams the (excellent) CD. On this contemporaneous release, **from an analogue master (!)** you won't have to wait for the LP! 180-gram vinyl, \$29.99. CD, \$14.99.

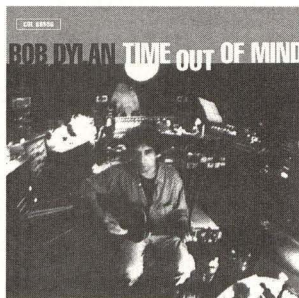
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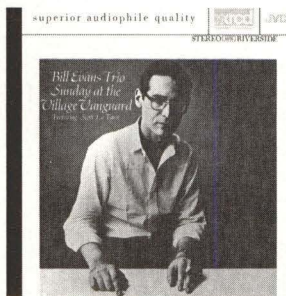
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parent company, Harman International.

The Gem is a graceful, narrow-aspect-ratio stand-mounted design, with twin mid/woofers vertically flanking a central 28mm tweeter (a high-performance soft-dome design from Danish manufacturer ScanSpeak). The 5.25" low-frequency drive-units are from Revel and use a one-piece titanium concave dome with a fluoroelastomer rubber surround, neodymium magnets, and a 2" edge-wound voice-coil with a Faraday ring to reduce magnetic distortion. The woofers are reflex-loaded with a 2"-diameter flared port some 6" deep; this vents on the rear panel. As with most of Kevin's Snell designs, a second tweeter on the rear of the cabinet equalizes the speaker's power response above 8kHz to compensate for the front tweeter's increased directivity above that frequency. All drive-units are magnetically shielded to optimize the design for home-theater use.

The crossover uses high-quality components, such as polypropylene-dielectric capacitors, and is hardwired using Kimber cable. It operates just above 2kHz, and the woofer and tweeter sections are physically separate, communicating with the outside world via separate sets of binding posts. Switches are provided for independent adjustment of the levels of the two tweeters.

The enclosure is constructed from MDF and is available in matte- or gloss-black finishes. Wooden or aluminum cheeks bolt on to the sides, with slight extensions at top and bottom to hold the vestigial grille frame. Laser interferometry was used extensively in designing both cabinet and woofers in order to minimize resonant modes and, in the case of the latter, ensure true piston behavior to at least an octave above the crossover frequency. The 28.5" stands match the Gem visually and come with the central pillar ready-filled with sand.

Kevin Voecks and his colleagues at Harman have been pioneers in developing both truly objective listening tests and measurement techniques that correlate well with what is heard. Such tests played an important role in the Gem's design. There is not the room to describe them in this review, but I encourage readers to visit the Revel web site and check these tests out for themselves.

The Ultima Sub-15/LE-1

The sealed-box Ultima Sub-15 visually matches the Gem, though the side cheeks are now top and bottom cheeks. A monstrous 15" driver with a stiff kapok- and Kevlar-impregnated pulp

cone, a huge nitrile rubber surround, and a cast aluminum alloy frame provide the grunt. This drive-unit features a 4" edge-wound voice-coil that weighs almost six ounces and is said to be capable of 1.5" of peak-peak excursion!

The Sub-15 is intended to be used with Revel's Ultima LE-1 monophonic power amplifier, which incorporates the

**The Gem was
very sensitive
to small changes
in position in my room.**

optimum crossover and response-shaping circuitry. Specified power is 725W into one Sub-15 or 1200W into two. A remote control is provided so that the user can adjust the blend between the satellites and subwoofer from the listening position—a red LED display on the front panel provides visual feedback. This amplifier can be used to drive one or two Sub-15s, and has both balanced and unbalanced inputs and outputs.

Gem sound

Setup proved rather time-consuming in that the Gem was very sensitive to small changes in position in my room, particularly regarding a thickness in the transition region between the upper bass and the lower midrange. I realized that, with its tall stands, the positions that had worked well for the Silver Signatures were resulting in two of the woofer-to-boundary distances for the Gems being almost the same. (The woofer-to-side-wall, woofer-to-floor, and woofer-to-front-wall distances should be as different as possible.) Eventually, I ended up with the drive-units about 49" from the wall behind them and 70" from the side-walls. The subwoofer was placed close to one corner, in front of the ASC Tube Traps that live there, but was left turned off for all the preliminary auditioning, which involved the Gems on their own.

Playing a wide variety of program material, I settled on the rear tweeters being on and set to "0" and the front tweeter set to "-0.5dB." Without the rear tweeter, which basically covers the top audio octave only, the balance in my quite well-damped room lacked a little air. Setting the front-tweeter level proved interesting in that even the 0.5dB level steps on its control seemed too large at times. But when I thought about it, a level shift of 0.5dB covering the entire operating range of the tweet-

er represents a large "area under the curve"—*ie*, a lot in energy terms—so it *should* be quite audible.

No matter how I set the controls, there was always a slight mid-treble accentuation audible. Nothing to get bothered by, but it should be mentioned, and in this the Revel was not dissimilar to the B&W Silver Signature. Whereas the British speaker has a rather polite, laid-back balance with a voluptuous midbass, the Revel Gem sounds more neutral, both in its treble voicing and in the character of its bass. As Tom Norton noted in the July/August '98 issue of *Stereophile Guide to Home Theater*, the Gem is voiced a little lean overall rather than rich, which does make it a little more fussy regarding the other components used in the system. But when it was used with top-caliber source components, the results were nothing less than magic.

Such subtleties in soundstaging as the slightly differing distances from the listener of the lead and backing voices on bassist Rob Wasserman's 1994 collabora-



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tion with Brian and Carnie Wilson, "Fantasy is Reality," on *Trios* (GRP/MCA MGD-4021), due to the slightly different amounts of artificial reverberation applied to each voice in the mix, were laid bare, but without the treble glare that often accompanies such clarity. And the image specificity was among the best I have auditioned in my room. The Gems painted a broad, stable stage between and behind them, without sound sources being pulled to the sides at some frequencies—always a sign of coloration. In fact, it was hard to write about the Gem having a character; other than the particular balance characteristics I described above, it was about as coloration-free as I have experienced. Well-recorded classical piano had a believability to its presentation that is rare.

This must be partly due to the Gem's excellent dynamics, its absence of compression. Compression is almost universally used in recordings to bring up the average loudness while leaving the peak levels untouched. It is, I believe, a major reason for recorded sound being fundamentally different from live sound. Yet, like sugar, that other ubiquitous drug, it is hard for engineers and audiophiles alike to kick the compression habit. My reference B&Ws, it must be admitted, do compress dynamics—not so much as you'd notice any unmusical effects, but after I'd gotten the Gems settled in, I found that I was playing my music somewhat louder. And there was a free-

dom from the sound clogging up that was remarkably addictive.

Allied to that was a freedom from grain. My live *Gerontius* recording on *Stereophile Test CD 2* (STPH004-2) features an enormous double choir, a large orchestra, and three solo singers. Not surprisingly, its dynamic range is wide, but when you set the level so the quiet passages are about right, many speakers start to clog up and get grainy when all hell and heaven break loose. Not so the Gems, which just got appropriately

The Gems' image specificity was among the best I have auditioned in my room.

louder, but at the same time allowed me still to hear the small details from which the climax is/was constructed.

I was impressed by the Gem's bass, but it was time to bring in the pros from Dover, in the form of Revel's Sub-15 and LE-1 combination.

Adding the subwoofer

"If you can hear a subwoofer working, it's set too loud," goes the old maxim. The paradox is that when a sub is set up truly optimally, it does almost nothing almost all of the time with a music signal. This makes it hard to justify the

purchase to someone else, and is probably why almost all systems incorporating a subwoofer that I have experienced suffer from an amusical boom.

After I had the Revel Sub-15 and LE-1 amplifier properly dialed-in, I turned off the main amps for most of a CD and, apart from the occasional grumbling and slight pedal note, there was nothing to be heard. Yet listen to the Gem satellites without the Sub-15, and that slight grumbling turns out to be truly important to the presentation both of the soundstage and the musical experience.

The downside of a full-range system, however, is that many recordings include all manner of low-frequency noises. The 1987 Alban Berg Quartet/Amadeus Ensemble live recording of the Brahms second string sextet (EMI CDC 7 49747 2), for example, which I play often, was revealed as having an intolerable Paris subway accompaniment. What I did find interesting about this encounter was that with this kind of music, without any upper-bass sounds in the satellites to provide an image anchor, the LF rumblings could be clearly located at the subwoofer position despite the conventional wisdom that bass sounds are nondirectional. (With rock and orchestral classical, the LF sounds were located at the correct positions within the soundstage, even though they were still actually coming from the subwoofer.) I would imagine that, absent masking, the corner placement's maximum excitation of room modes gives the ears the best locational clues as to where bass sounds are coming from.

But one area in which I was continually impressed by the Sub-15/LE-1 combination was how well bass notes were defined. This subwoofer really does start and stop quickly. Yes, I am aware that a low-pass-fed woofer's impulse response is dominated by its bandpass ringing, but it has to be admitted that some woofers ring longer than others.

One area of weakness for all subwoofers is the quality of the feed to the main, high-pass-filtered speakers. It's nice to have the bass extension, but not if this is at the expense of added midrange grain or a reduction in the soundstage. The LE-1 added a very faint treble haziness to the system's presentation that was noticeable on direct comparison but was not significant when I was assessing the system on its own sonic merits.

As I was writing up the measurements for this review, I was listening to the *Adagietto* from the 1991 Welsh Symphony Orchestra's live recording of

Associated Equipment

Digital sources: Mark Levinson No.31.5 CD transport and No.30.5 DAC connected with Illuminations Orchid AES/EBU link; Wadia No.270 CD transport and No.27i DAC connected with ST-glass links; Nagra-D open-reel digital recorder, Tascam DA-38 MDM recorder, and Panasonic SV-3700 DAT recorder, all connected via a Meridian 518 reclocking unit (and a Prism MR-2024T bit splitter for the Tascam) and Canare 110-ohm AES/EBU cables.

Analog source: Linn Arkiv/Ekos/Sondek LP12/Lingo on Archidee table.

Preamplifiers: Mark Levinson No.380S with Levinson source components, Linn Linto with phono source, none with Wadia digital sources.

Power amplifiers: Mark Levinson

No.33H and Sonic Frontiers Power 3 monoblocks; Pass Labs Aleph 3 stereo amplifier.

Cables, interconnects: Madrigal CZ Gel-1 (Mark Levinson components); AudioTruth Diamond balanced interconnects (Wadia components), with AudioTruth Lapis x3 from LE-1 crossover/amplifier to satellite power amplifiers; AudioTruth Sterling or MIT CV-770 speaker cables (the latter with short extenders to make up for the fact that MIT spades are incompatible with Levinson binding posts); Cardas Cross speaker cable from LE-1 to Sub-15.

Accessories: Audio Power Industries Power Wedge 116 Mk.II and PE-1 AC line conditioners (not power amps); ASC Tube Traps; RPG Abffusors.

—John Atkinson

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Jack English, Stereophile, Vol.15, No.2

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Mahler's Symphony 5 with Tadaaki Otaka (*BBC Music* Vol.1 No.9). The harp and pizzicato bass notes that punctuate the very Viennese, sadness-and-sweetness-ridden string writing illuminate the acoustic like small stones tossed

into a still pool (as do the various audience noises). And as the harmonies slowly move toward the cathartic tonal resolution at the end of the piece, the pedal notes on the double basses, reproduced without boom by the Gem/Sub-

15 combination, pin down the work's tonal center. This was bass clarity I rarely hear from full-range speakers.

Finally, the review written, I rewarded myself by putting on Van Morrison's *A Night in San Francisco* (Polydor 521

Measurements

Other than impedance, all acoustic measurements were made with the DRA Labs MLSSA system and a calibrated B&K 4006 microphone.¹ The Gem's voltage sensitivity (measured using a noise signal and a B-weighting filter to discount the effects of peaks and dips at the frequency extremes) was around 87.5dB/2.83V/m, which is fractionally if inconsequentially higher than specified.

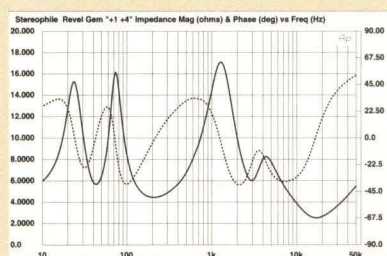


Fig.1 Revel Ultima Gem, electrical impedance (solid) and phase (dashed) with HF contour set to "+1" and rear tweeter set to "+4" (2 ohms/vertical div.).

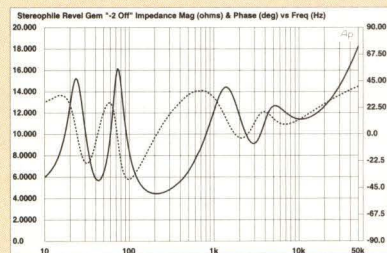


Fig.2 Revel Ultima Gem, electrical impedance (solid) and phase (dashed) with HF contour set to "-2" and rear tweeter off (2 ohms/vertical div.).

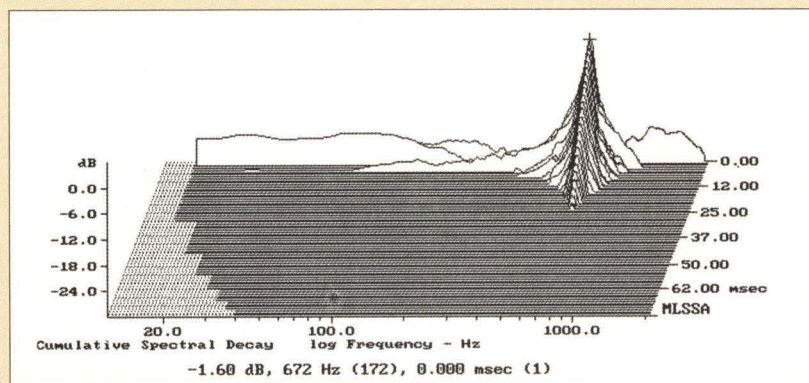


Fig.3 Revel Ultima Gem, cumulative spectral-decay plot of accelerometer output fastened to cabinet sidewall. (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz.)

Figs.1 and 2 show the Gem's impedance with its controls set to give the most demanding amplifier loading (fig.1, front tweeter "+1" and rear tweeter "+4") and its kindest load (fig.2, front tweeter "-2," rear tweeter off). The variation at high frequencies is wide, from 2.5 ohms between 10 and 20kHz in the former case to 11.5 ohms in the latter. Fortunately there is not much energy present in this region, so even with the speaker's controls set to the fig.1 conditions, the partnering amplifier shouldn't be severely taxed. But in any case, I wouldn't expect a speaker in this price class to be partnered with anything but excellent amplification.

Moving down in frequency, the saddle between the twin magnitude peaks in the bass indicates the tuning of the flared port on the rear panel to be 42Hz, the frequency of the lowest string of the 4-string bass. Even without the subwoofer, the Gem offers reasonable extension. Note that the traces in figs.1

¹ To minimize reflections from the test setup, the measuring microphone is flush-mounted inside the end of a long tube. Reflections of the speaker's sound from the mike stand and its hardware will be sufficiently delayed to not affect the measurement. For full details of how I measure loudspeakers for *Stereophile* reviews, see "Loudspeakers: What Measurements Can Tell Us—And What They Can't Tell Us!," AES Preprint 4608, presented at the 103rd Audio Engineering Society Convention, New York, September 1997. The preprint is available from the AES, 60 East 42nd Street, Room 2520, New York, NY 10165-0075. The AES Internet site, www.aes.org, offers a secure transaction page for credit-card orders.

—JA

and 2 are free from wrinkles and discontinuities, implying an absence from cabinet resonant problems.

Fig.3, a waterfall plot calculated from the output of a simple PVDF plastic-tape accelerometer attached to the center of the cabinet sidewall, shows that there is in fact one resonant mode present, and at quite a high level. However, the presence of extensive and well-positioned bracing pushes this up to a very high frequency, 670Hz, which will mean that it will both "fall between the notes" in the musical spectrum and, once excited, not ring for very long. And it should be noted that this measurement was made without the Gem bolted to its stand. When the speaker was attached to the stand, I couldn't hear this mode being excited even with a stethoscope. I *could* detect it in the stand pillar, which suggests that the speaker and the stand should be regarded as a single mechanical system.

The LE-1's high- and low-pass functions are shown in fig.4. The top curve to the left is the basic drive signal to the subwoofer, the bottom curve is the subwoofer drive with the boundary compensation EQ switched into circuit. The crossover appears to be set at 80Hz, with a third-order, 18dB/octave high-pass slope and a fourth-order low-pass slope. The LE-1's input impedance at 1kHz was 10k ohms, which should not load down the partnering preamplifier to any great extent; its line-level output to the satellite amplifier was a low 102 ohms. The output impedance at the subwoofer terminals was a very low 0.05 ohms.

From left to right, fig.5 shows the

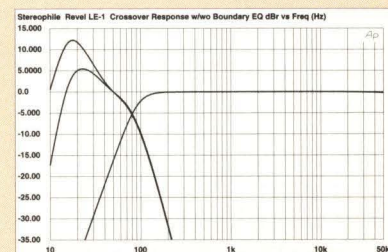


Fig.4 Revel LE-1, crossover responses (5dB/vertical div.).

290-2), disc 2, cuts 3 and 4, where Van and his band, with Georgie Fame on Hammond organ and Jimmie Witherspoon guesting on vocals, blast through "I'll Take Care of You," "It's a Man's Man's, Man's World," "Lonely Avenue,"

and "4 O'Clock in the Morning," exploring the triple-time blues in body-swaying detail. I am here to tell you that with the full Revel system powered by the Levinson monos and the Wadia digital front end, I was *there*. Van was the

man! Live sound in the home just doesn't get any better.

Conclusion

No doubt about it, this is not a loudspeaker system for the financially faint

Measurements

individual responses of the Gem's port, woofers, and tweeter (with the front-tweeter control set to its flat position). As expected from the impedance plot, the port covers the range centered on 42Hz, the minimum-motion frequency of the woofers. Though there is a slight peak in its output at 850Hz, this shouldn't have any subjective consequences due to the fact that the port faces away from the listener. The woofers are basi-

cally flat in their passband, rolling off steeply above 2kHz so that a slight peak at 4.5kHz is well suppressed.

The tweeter comes in a little higher in frequency than I would have expect-

ed. The ripples in its on-axis response are due, I assume, to reflections from the trim plates, which offer symmetrical obstructions in the tweeter's acoustic environment. These will be most severe

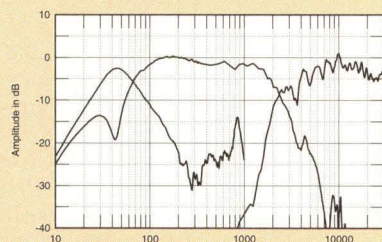


Fig.5 Revel Ultima Gem, acoustic crossover on tweeter axis at 50", corrected for microphone response, with the nearfield woofer and port responses plotted below 300Hz and 1kHz, respectively.

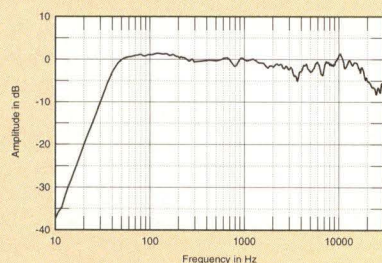


Fig.6 Revel Ultima Gem, anechoic response on tweeter axis at 50", averaged across 30° horizontal window and corrected for microphone response, with complex sum of the nearfield woofer and port responses plotted below 300Hz. HF contour set to "0."

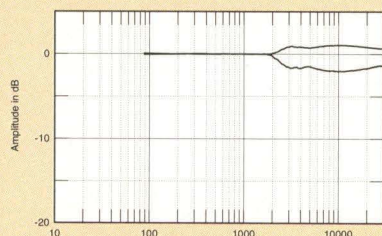


Fig.7 Revel Ultima Gem, effect on anechoic response on tweeter axis at 50" of HF contour control set to "+1" (top) and "-2" (5dB/vertical div.).

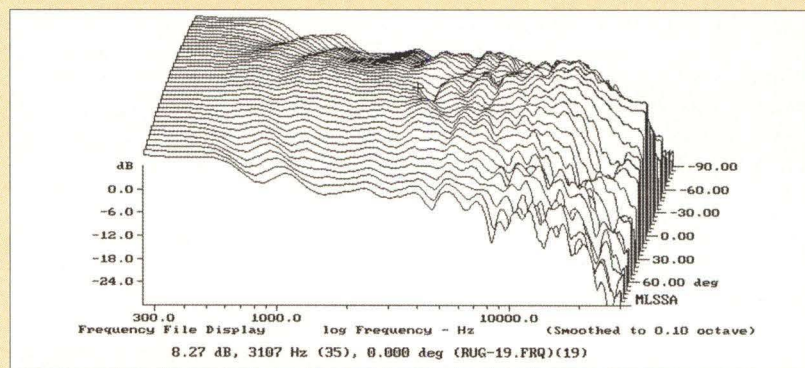


Fig.8 Revel Ultima Gem, horizontal response family at 50", from back to front: responses 90°-5° off-axis; on-axis response; responses 5°-90° off-axis.

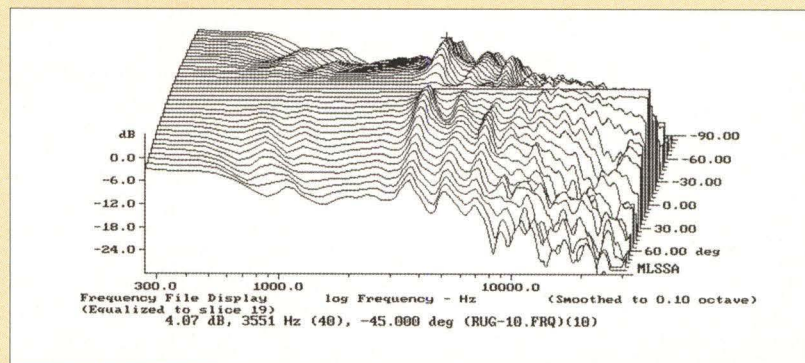


Fig.9 Revel Ultima Gem, horizontal response family at 50", normalized to response on tweeter axis, from back to front: differences in response 90°-5° off-axis; reference response; differences in response 5°-90° off-axis.

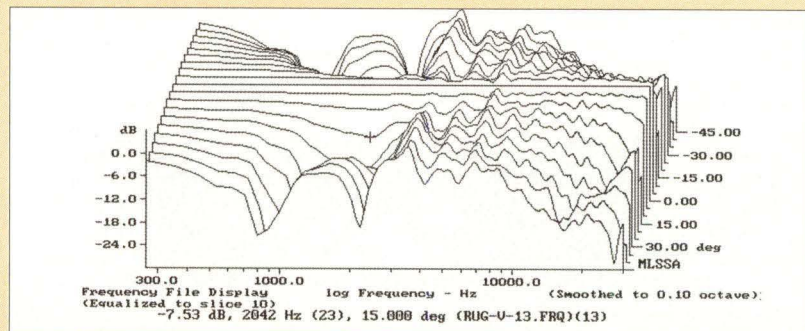



Fig.10 Revel Ultima Gem, vertical response family at 50", normalized to response on tweeter axis, from back to front: differences in response 45°-5° above HF axis; reference response; differences in response 5°-45° below HF axis.

of heart. The Revel system as reviewed, with gloss-black carcass and rosewood sidepanels, costs \$18,500, with \$9800 of that sum being for the subwoofer and amplifier. And don't think you can skimp by not buying the stands—these

are essential to getting the best from the Gems. At \$7500–\$10,200/pair (including stands), Revel's Gem is a shoe-in recommendation for someone with not too large a room, who wants a high-dynamic-range speaker with state-of-

the-art transparency and is prepared to pay for it. Add the Sub-15 and an LE-1 and you have a superbly engineered, true Class A speaker system that will raise goosebumps with all kinds of music. It's my new reference. 

exactly on-axis, but will tend to even out to the speaker's sides—as can be seen in fig.6, which shows the Gem's response averaged across a 30° horizontal window on the tweeter axis. Other than a slight lack of energy in the presence region, this is a very flat-measuring speaker! The tweeter control was again set flat for this graph. Fig.7 shows the effect of the tweeter control when set to its maximum and minimum positions, with the flat-position response subtracted out. The maximum shaping is almost exactly +1dB, -2dB, as specified.

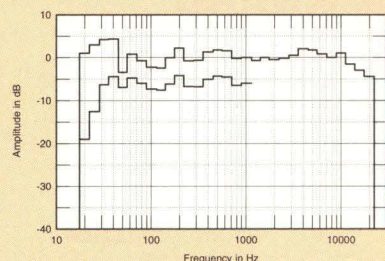


Fig.11 Revel Ultima Gem/Sub-15, 1/3-octave, spatially averaged response in JA's room. HF contour set to "-0.5," rear tweeter set to "0." Lower curve is the Gems without the subwoofer, offset by -6dB for clarity.

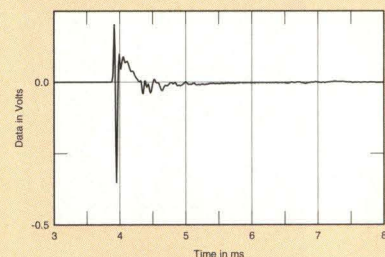


Fig.12 Revel Ultima Gem, impulse response on tweeter axis at 50° (5ms time window, 30kHz bandwidth).

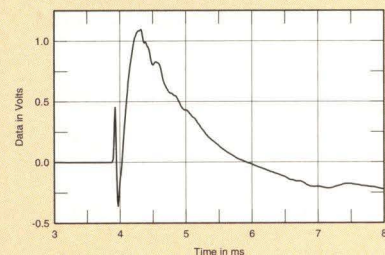


Fig.13 Revel Ultima Gem, step response on tweeter axis at 50° (5ms time window, 30kHz bandwidth).

Fig.8 shows the Gem's response as it varies across a window $\pm 90^\circ$ either side of the tweeter axis. The crosshair cursor is positioned on the axial trace just below the presence-region suckout. It should be easily seen that the suckout disappears relatively quickly to the sides. This is more clearly seen in fig.9, which shows just the *differences* in responses. The ripples in the treble obscure what is actually a fine, well-controlled lateral dispersion, which correlates with the fine imaging.

Vertically (fig.10), the spaced woofers result in comb-filtering at extreme off-axis angles. The listener needs to listen to the Gem with his or her head between the centers of the woofers to get the designed balance from the Gem, hence the tall stands.

Fig.11 shows the spatially averaged response² of the Gems and Sub-15 in my listening room, with the rear tweeter on and set to "0" and the front tweeter set as I preferred it, to "-0.5dB." The response trend is very flat, meeting $\pm 1.5\text{dB}$ limits all the way from 160Hz to 10kHz. But you can see a slight excess of in-room energy in the octave above 3kHz, which might well correlate

2 For my in-room spectral analyses I average six measurements at each of 10 separate microphone positions for left and right speakers individually, giving a total of 120 original spectra. These are then averaged to give a curve that, in my room, has proved to give a good correlation with a loudspeaker's perceived balance. I use an Audio Control Industrial SA-3050A spectrum analyzer with its own microphone, which acts as a check on the MLSSA measurements made with the B&K mike.—JA

with the slight treble "bite" I occasionally noted in my auditioning. You can see that the Sub-15 does extend the response down to 20Hz, even with the boundary EQ switched into circuit. But note the lack of energy in the 50Hz third-octave band: I could not get a good balance in my room between this band and the ones to either side.

Note also the residual peak at 200Hz. After much experimentation with speaker position, I reduced this but could never entirely eliminate it, the result being a slight warmth to the system's sound. The lower trace in fig.11 is the in-room response of the Gems without the Sub-15, offset for clarity. You can see that the room integration in the upper bass is actually a little better than with the subwoofer, but also that the sub does add a considerable amount of energy in the midbass and below.

In the time domain, the Gem's impulse response (fig.12) is typical of a design using a high-order crossover, but some reflections can be seen just over half a millisecond after the initial pulse, presumably from the side cheeks. The step response (fig.13) shows that the tweeter and the woofers are connected with the same positive polarity, but that the design is not time-coherent. Finally, the Gem's cumulative spectral-decay or waterfall plot (fig.14) looks clean enough, but whether or not residual resonant modes are present is obscured by the early reflections. —John Atkinson

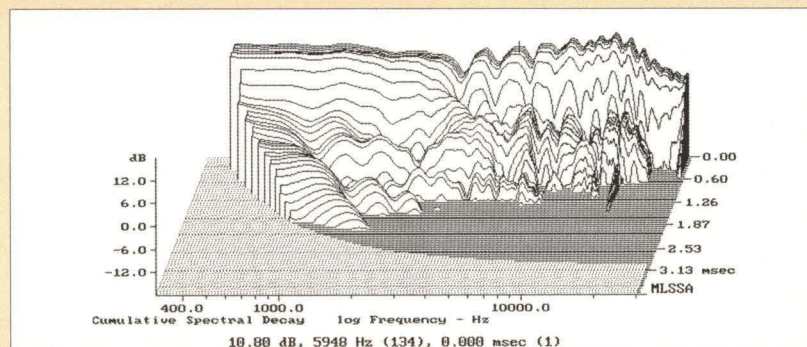


Fig.14 Revel Ultima Gem, cumulative spectral-decay plot at 50° (0.15ms risetime).

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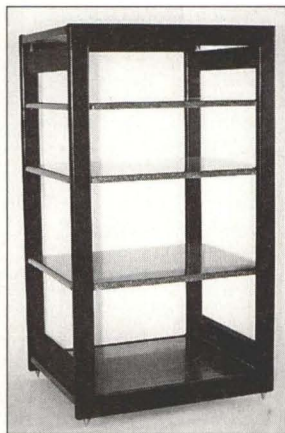


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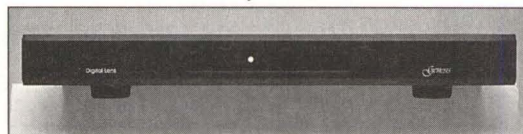


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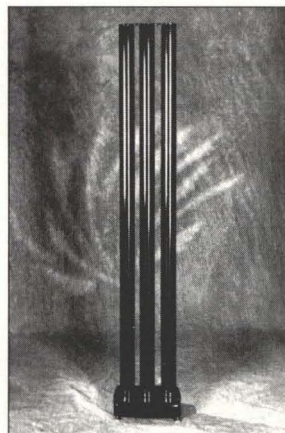


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Cary Audio Design CAD572SE monoblock power amplifier

During a conversation with Cary founder Dennis Had at a recent audio convention breakfast, I learned that he had a long career in electronics, specializing in military/industrial high-power radio-frequency amplification and transmitters. However, his dream was always to re-create single-ended tube amplifiers, especially zero-feedback designs.

He began building these when he was an active member of a high-school band in the '60s. At that time he used the legendary 300B, a directly heated triode tube dating from the 1930s and already something of an antique. As a young musician, he observed that low- and zero-negative-feedback triode circuitry tended to generate the sound he preferred—to his ears, in fact, it sounded not so much “preferred” as “natural.” Nevertheless, it took Had 30 years to return to these roots and found his own business devoted to tubed amplification. It's no accident that low- and zero-feedback triode technology is now the mainstay of the Cary amplifier line.

Cary's new CAD572SE tube monoblock is a relatively affordable design based on Svetlana's new 572 triode. Priced at \$2495/pair, the 572SE is rated at a straight 20Wpc into 8 ohm loads. In practice, it should drive loads of up to 16 ohms equally well. Speakers with 4 ohm impedances are in contention—the 572SE has a rather low damping factor, and would need a 4 ohm loudspeaker with a combination of very high sensitivity (>93dB/W/m) and a smooth impedance characteristic (including through the bass region) for the result to be acceptable.

Technology

In the virtual absence of corrective negative feedback, a designer can mix and match an amplifier's signature to get what he feels to be a musically palatable blend. The characteristic signatures of the amplifier's output tubes at their chosen operating points are thus laid bare.

The 572SE is built around the new Svetlana 572-series high-power triode tube, a mix of classic and modern design elements including bright-emitter (and



Cary CAD572SE power amplifier

they are *bright*), direct-coupled, thoriated-tungsten filaments. The oversized anodes are milled from solid graphite. With low secondary emission, the anodes run a pale cherry red when fully warmed up, and hard-glass envelopes are employed to avoid thermal distortion. Of the four 572 types Had has tried, the 572-3 version is the one that has been optimized for SE use. General parameters for this four-pin triode show some resemblance to an uprated 300B in respect to a moderate transconductance (μ), this conferring favorable linearity in zero-feedback applications. This tube puts out a true 20W in class-A, promises high reliability, and facilitates the design of a competitively

priced SE amplifier. In short, it boasts a relatively competitive price/performance ratio that Had has chosen to exploit in the 572SE.

The 572SE isn't a true zero-feedback design; some very moderate loop negative feedback is used to improve the matching impedance to the loudspeaker. But the amount of feedback—quoted at just 2dB—is so small that, for all intents and purposes, the amp can be regarded as a zero-feedback design.

Without negative feedback, errors and losses accumulate, so the inherent bandwidth and linearity of each stage must be optimized. The output transformer is a particularly vital item. On paper, this component looks simple

Description: Monoblock tube amplifier, with Svetlana 572-3 output triode and a single-ended output stage with 2dB loop negative feedback. Specified output power: 20W into 8 ohms (13dBW). Frequency response: 15Hz–23kHz, –0.75dB. Measured output impedance: 2.1 ohms at 20Hz; 1.85 ohms, 1kHz; and 1.91 ohms, 20kHz. Measured input impedance: 140k ohms. Measured input sensitivity: 250mV for 1W into 8 ohms; 1.18V for full power.

Dimensions: 5½" W by 7" H by 19" D. Weight: 28 lbs. each.

Serial numbers of units reviewed: Not noted.

Price: \$2495/pair. Approximate number of dealers: 65.

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enough, but for it to be able to operate over the audio band, it has in fact to be very complex electrically. Many aspects of the transformer's behavior can affect sound quality.

For an amplifier to provide a wide frequency response, the transformer's effective bandwidth needs to be even wider, and by a considerable margin. For example, an amplifier rated at 20Hz–20kHz (some 10 octaves) requires a transformer whose half-power points are perhaps 15 octaves apart. This transformer needs high primary inductance in order to function effectively at very low frequencies, yet very low mutual inductance and low stray capacitance are essential for good performance at high frequencies. These low- and high-frequency criteria are in conflict. The problem is exacerbated in single-ended designs, where heavy DC magnetization resulting from the standing class-A bias current that flows through the output tube is present. This necessitates a flux-stabilizing, saturation-controlling air gap in the transformer core, which conflicts with the need for high primary inductance.

In other words, without a top-class transformer, the designer of an SE

amplifier is wasting his time. In the case of the Cary 572SE, the air-gap transformer employs a costly bifilar winding method to tightly interleave the primary and secondary windings in a 16-section array. This technique minimizes shunt capacitance and leakage inductance. The transformer must also be physically large enough to support both the audio

**Without a
top-class transformer,
the designer of an
SE amplifier is
wasting his time.**

and magnetizing currents. The 572SE transformer conductors are of oxygen-free copper and its core laminations are of selected grain-orientated Hypersil, a low-loss steel alloy.

At the other end of the circuit, the input stage is an octal-based 6SN7 double-triode tube, configured with one triode amplifying the signal and the second triode acting as a current source. This tube feeds the second stage, where

both triodes of a 6SN97 operate in parallel as a low-impedance power drive for the 572-3 output tube grid.

The 572SE is hard-wired throughout—Cary doesn't use printed circuits—which potentially promises better sound through the avoidance of dielectric effects from the substrate. An unavoidable result of this, however, is higher build cost.

A full-wave semiconductor bridge feeds the main output power supply, choke-smoothed by a Pi-network filter. A tube rectifier with good feed-forward noise isolation powers the anode supply for the more critical input and driver stages. All heaters are DC-powered. Polystyrene and film capacitors are used where relevant. The auto-biased output stage needs no adjustment when tubes are replaced.

Tube life is anticipated at 1000–1500 hours for the 572-3, and up to 5000 hours for the two 6SN7s. An output-tube anode protection fuse is accessible on the back panel, while the front carries the Power On/Standby and Power Tube On switches.

The speaker output is through gold-plated three-way binding posts, at a nominal 8 ohms only, while the signal input is SE via gold-plated phono sock-

Measurements

During the course of this review the Cary CAD572SE was loaned back to Cary's UK agent for a local show. Unfortunately it was mishandled during transit and returned to me with several broken tubes. After these were replaced, one amplifier showed higher distortion than the other, though there was no significant change in overall sound quality. Channel balance remained almost perfect, while there was no difference in output power. Perhaps the replacement tube wasn't as linear as the first.

The CAD572SE achieve its rated power with a mildly relaxed 3% criterion for distortion. I measured exactly 13dBW into 8 ohms, which is 19.995W. Not surprisingly, this was at a 1kHz midband frequency. The usual 20Hz and 20kHz power points are out of reach at this level for a constant distortion limit. While the 572SE managed close to full power down to 50Hz (12.3dBW) and up to 20kHz (12.25dBW), the 20Hz frequency reading was 7.5dBW, 5.5dB below the maximum level.

Just how much this shortfall matters will depend on several factors. First, does the program material being played con-

tain significant 20Hz content? Second, will the music's 20Hz component reach full level? Third, could your speaker reproduce it if it were present? Finally, is a 20W power ceiling sufficient to make the 20Hz components loud enough to be satisfying or even audible?

For the record, I think the Cary's power bandwidth is pretty good for a single-ended tube design. When driving a 4 ohm load it didn't give up the ghost, though the 4.5dB shortfall in level was greater than a typical halved-impedance speaker can make up (usually a gain of 3dB). In terms of available loudness, the 572SE is a 6–7W amplifier when driving more difficult "4 ohm" loads; ideally, these should be of greater than 95dB/W nominal sensitivity.

Conversely, 90–92dB of rated sensitivity will be sufficient for a "good" 8 ohm load and moderately loud playback in medium-size rooms. There was some small improvement in power bandwidth for 4 ohm loads, though the significant output impedance will mean that load interactions will be proportionately increased. For example, the 8 ohm damping factor is 4.3, while for 4

ohms it is half this at 2.15. This is likely to significantly change the intended bass alignments of most speakers.

The directly measured output impedance was pretty constant, and moderate for the class: at 2.1 ohms, 20Hz; 1.85 ohms, 1kHz; and 1.91 ohms, 20kHz. Peak output current was a modest $\pm 2.7A$, eminently appropriate in view of the clean current and voltage clipping and modest output voltage.

Pulse power testing has little effect on class-A amplifiers, and only a fraction of a dB increase was available on equivalent peak program—perhaps 21W/8 ohms. Overdrive testing confirmed that this amplifier was inherently very fast, showing well over 100kHz of 1W bandwidth. The inherent recovery from overload was rapid and well behaved. This measured behavior agreed with the convivial clipping character heard in the listening tests.

The dominant distortion component was the second harmonic, while the decay in amplitude through to the higher harmonics was monotonic (smoothly decremented). As noted earlier, the distortion at rated power was typically 3%,

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ets of good quality. Specified as having a high input impedance—over 100k ohms—the 572SE also has a healthy sensitivity, just over 1V being required for full power. A wide frequency response of 15Hz–23kHz is claimed for just 0.75dB of loss relative to the mid-band reference level.

The CAD572SE's build quality and appearance are almost as good as the 805C's, though I would have preferred black textured enamel instead of chrome for the mains transformer, which is located at the back of the chassis. The detailing is just too shiny to blend well in my listening room.

Sound

Clearly it is not sufficient to have low or zero feedback and/or SE and/or triode outputs; we also require good amplifier design. Some tube designers appear to have lost the plot regarding this fundamental aspect of sound reproduction.

Not so Cary, whose CAD805 and CAD805C have demonstrated a convincing combination of virtues despite the difficulties inherent in the technology and load interfacing. Following my experience of the reference 805C with an SE monoblock at a more affordable

price required fine judgment. Out of the box, the Cary CAD572SE needed almost 50 hours of break-in for its full bloom to develop. From first plug-in it sounded in character—very much a low-feedback triode sound—while continuing to gain in purity and clarity

**Out of the box,
the Cary CAD572SE
needed almost
50 hours of break-in
for its full bloom
to develop.**

during the running-in period.

Still, this isn't an amplifier you'd leave on all the time. Once run-in, it reached 80–90% of its potential within 30 minutes of cold turn-on. A Standby mode powers the heaters and driver section; the output-tube anode will then warm up in about five minutes. You could leave it powered up for long days or weekends, exploiting the Standby mode to save tube life and power. Otherwise,

I'd switch it off completely.

As my ears became accustomed to this affordable power amplifier, it was hard not to be aware of the performance gap between it and the cost-no-object CAD805C reference. As is frequently the case with SE triode amplifiers, it was rather too easy to find differences—a reviewer can be swayed too easily. Of course, some of the differences arose from the load interface—the interaction of the different and significant output impedances of these amplifiers with different speakers. Fortunately, these aspects are largely quantifiable by measurement, and can be accounted for when weighing up the subjective characteristics.

Then there are the other subjective differences—for example, those associated with component type and quality, topology, overall electronic design, the degree of negative feedback, and/or the “class” of the output stage. In addition, with low- and zero-feedback amplifiers there may be some simple low-order distortion present, rather like that found in loudspeakers. This may well be audible, if not generally destructive to the overall sound quality. However, when the distortion is audible, it may be associated with subtle changes in timbre heard as minor shifts in

Measurements

aurally quite innocuous even on pure tones. I thus adopted 10W (–3dB) as the nominal upper-level working point for measuring distortion and got figures of –45dB, or 0.56% THD+Noise in the midband. The THD measured –37.5dB (1.33%) at 20kHz, –40dB (1%) at 50Hz, and –20dB (10%) at 20Hz. These are satisfactory figures, just on the verge of accepted audible thresholds for low-order harmonic-distortion spectra such as the Cary's.

Total harmonic distortion was greatly improved all around by 1W, typically –60dB (0.1%) or better at 1kHz (fig.1),

and was held to a more than satisfactory 0.7% at 20Hz, 0.28% at 20kHz.

To confirm that the distortion continued to decrease at lower and lower powers, I measured at 100mW—still a moderately loud, conversation-equivalent level—and got better than –70dB (0.015%) of distortion in the midband. At the frequency extremes, I measured 0.05% at 20kHz and 0.25% at 20Hz. Clearly, the 572SE's low-level purity is quite excellent.

At the 10W level, a very fair result was obtained for high-frequency intermodulation, with –44dB (0.63%) of dif-

ference tone and with a low proportion of higher-order sidebands. At a more representative 1W level (fig.2), the results were –61dB for Channel A and –55dB for Channel B—actually quite good. This helped confirm my subjective view concerning the 572SE's “sweet, clean” treble.

Channel separation was understandably exemplary given the dual-mono construction. Residual hum measured –66dB for 1W unweighted, while the A-weighted reading was more than satisfactory at –83dB—sufficient for all but the most sensitive loudspeakers. I heard no residual noise at the listening position in quiet surroundings at an equivalent sensitivity of 94dB/W. Relative to full level, 20W/8 ohms, the noise measured –80dB. When this was A-weighted, a fine –96dB result was obtained (this the average of the two channels).

Channel balance was excellent, measuring ± 0.02 dB—probably a fluke for this particular set of tubes. Input sensitivity was quite normal—250mV for 1W and 1.18V for full power—so passive line controls are possible for use with higher-output CD players and dig-

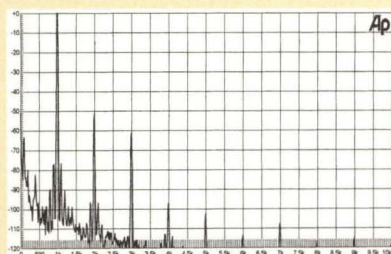


Fig.1 Cary CAD572SE, spectrum of 1kHz sine wave, DC–10kHz, at 1W into 8 ohms (linear frequency scale).

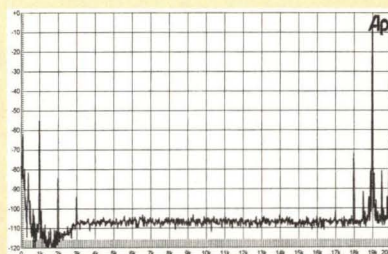
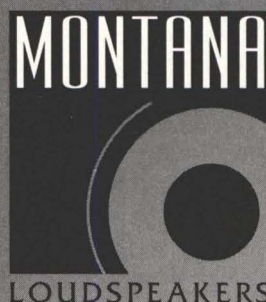


Fig.2 Cary CAD572SE, HF intermodulation spectrum, DC–20kHz, 19+20kHz at 1W into 8 ohms (linear frequency scale).

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apparent frequency response rather than as a loss of clarity or an imposed roughness. Variations in the spectral "shape" or harmonic distribution of an amplifier's distortion are also responsible for differences in sound quality.

Given that most loudspeakers have a generalized impedance curve that peaks in the upper midrange, often dips in the 2–4kHz presence range, and then rises somewhat at high frequencies, an SE amplifier designer might unconsciously or even consciously choose particular tubes, then configure and bias them so that the result sounds better balanced with typical speakers. He or she might then use the mild tonal-balance shift due to a particular nonlinearity to balance the frequency-response error caused by matching the tube to the speaker impedance.¹

Subjectively, the available power

sounds rather more than the 572's paper specification suggests. Still, this is not a big amplifier; with suitable speakers, the 572SE plays loudly enough for row-30 concert-hall realism, but is undeniably inadequate for stadium-rock effects unless you plan to use your speakers as headphones. If you're a rocking head-

**Without requiring
or demanding
high sound levels,
the 572SE worked
very well with
Quad's ESL-63
electrostatic.**

banger and don't have 8 ohm horn speakers of +96dB voltage sensitivity or the equivalent, look elsewhere.

I tried the 572SE with the compact, average-sensitivity (86–87dB/W/m) Sonus Faber Electa Amator IIs, but met with failure. Listening to this speaker can be a joyful experience, but it needs a hefty kick—in my opinion, +75Wpc—

and the 572SEs barely roused the Amators from their slumber. Conversely, the Wilson Audio WITT 2, only a few dB more sensitive by my measurement, took very kindly to the small Cary. While the combination could not generate the kind of wallop of which the WITTs are otherwise capable, the result was musically satisfying—thanks in part, no doubt, to the WITT's kind and respectably uniform impedance curve.

Again, without requiring or demanding high sound levels, the 572SE worked very well with Quad's ESL-63 electrostatic, the very natural resulting sound suggesting that this is how the '63s should always have sounded. My reference midclass compact loudspeakers, the Spondor SP2-2s, though getting on a bit now (my pair is probably at least 10 years old), offered quite good load matching and a sensitivity similar to the Wilsons'. I liked this combination with the CAD572SE; the Spondors had never sounded so even tempered or as liquid.

In contrast to many other contenders, the 572SE offers genuine transparency, delivering fine low-level detail and deep, see-through soundstages. Detail was nicely illuminated not only in the

¹ Through this first layer of variation, such amplifiers exhibit a "core performance" in which traditional aspects of sound quality still hold true. This was amply demonstrated when I recently tried a relatively well-known brand of European zero-feedback SE triode amplifier. While the genre's superficial attractions—creamy tonality and low listener fatigue—were evident, a representative example from this range also sounded comparatively slow, undynamic, and lacking in transparency.

Measurements

ital sources. (There are, of course, Cary preamplifiers; the company suggests the SLP-50.) The input impedance is an easy-to-drive 140k ohms.

Unconditionally stable, the amplifier was happy driving a pure 2 μ F capacitor load, the overshoot increasing only to 12% and with no ringing at all. In contrast to that of many feedback amplifiers, this loading of 2 μ F had no measurable effect on the audio-range frequency response; the Cary 572SE is indeed highly compatible with electrostatic loudspeakers. On a pure resistive load (fig.3, top trace above 6kHz), the 572SE's

response measured ± 0.2 dB from 12Hz to 22kHz, -0.5 dB at 10Hz and 28kHz, and -3 dB at 6Hz and 44kHz—a notably wide, flat bandwidth for 1W. In the ultrasonic range there was a mild "sub" resonance at 80kHz, this an inaudible out-of-band ripple that added a small 6% overshoot to the otherwise excellent squarewave response.

The other trace in fig.3 is the amplifier response driving a two-way "6 ohm" loudspeaker load, in this case a B&W CDM1SE, the impedance of which is shown in fig.4. The small B&W has a minimum value of 5.2 ohms at 200Hz

and a peak of 28 ohms at 2kHz, plus a 5 ohm treble range. Driving this real loudspeaker, the Cary has a nonflat frequency response. By the standards for a loudspeaker, typically 50Hz–15kHz, ± 3 dB, the Cary's result doesn't look too dramatic, holding to 15Hz–30kHz, ± 1.5 dB. Nevertheless, the upper midrange is somewhat lifted—does this correlate with my feelings of a "slightly lightweight" midrange?—the upper treble is attenuated by 1.5dB—is this my "sweet upper treble"?—and the bass-response effect added some unevenness to the combined speaker/room response.

Choose the right cables and compatible speaker, and tweak the speaker placement in your listening room, and these errors do not generally amount to very much in the context of the overall sound quality.

All in all, this very well-balanced SE triode design delivers realistic power, bandwidth, and distortion performance in a compact package. —Martin Colloms

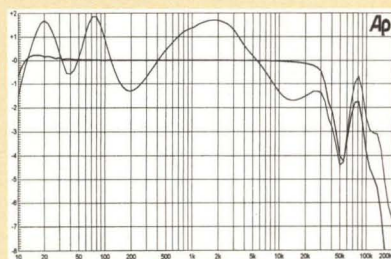


Fig.3 Cary CAD572SE, frequency response at (from top to bottom at 10kHz): response at 1W into 8.2 ohms, 2.83V into a B&W CDM1SE loudspeaker load (1dB/vertical div.).

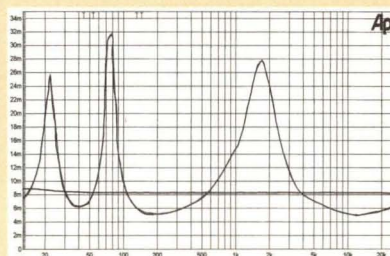


Fig.4 B&W CDM1SE loudspeaker, electrical impedance compared with that of an 8.2 ohm resistor (2 ohms/vertical div.).

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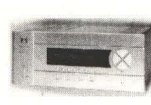
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central region, but even at the back of the virtual stage. This quality, a hallmark of membership in the high-end club, qualifies the 572SE for admission.

As regards dimensionality, the 572SEs threw a stereo image as wide as it was spacious, and imbued with substantial reverberant air and atmosphere. Focus was strengthened by the neutral perspectives constructed by the even, well-balanced tonal quality. The 572SE never threw the sound forward, and offered high resolution, very good ambience, and a strong commitment to a recording's musical and performance qualities. Here absolute accuracy is less important, I feel, than the communication of the atmosphere of the original recorded event.

The bass fell short of the 805C's standard, and well short of that of the better solid-state designs. However, this criticism requires qualification: Though there was some noticeable shortfall in slam and extension when viewed objectively, the bass wasn't bad at all down to 50Hz. My opinion of the 572SE's generally good quality was reinforced by its tight, truthful character on smaller bass percussion, especially jazz double bass. Though Stanley Clarke had to be reproduced on a small scale, Mingus proved no trouble at all for the 572SE.

The 572SE didn't quite convey the

absolute midrange homogeneity of an exemplary 300B design—but then, neither does the 805C. The 572SE's midrange nonetheless sounded very, very good on a small selection of medieval voices and well-recorded vocal solos. An early Joni Mitchell album proved worth revisiting to hear just how well this amplifier allowed performers to sing naturally, and with great expression.

The 572SE was free of glare, grain, or harshness. Its treble was nicely proportioned, evenly balanced, high in resolution, low in grain, and complemented the midrange very well.

On the other hand, the Cary's mids sounded slightly lightweight—but only by comparison with the finest references. For all intents and purposes, the 572SE was neutral and easy on the ear; there was no obvious audible disadvantage in the small degree of feedback employed in the amplifier to stabilize its operation. In any case, the use of negative feedback is by no means the deciding factor in the determination of sound quality, even though it can be harmful to fidelity if used excessively or inappropriately.

The Cary 572SE was free of any glare, grain, or harshness. Its treble was nicely proportioned, evenly balanced, high in resolution, low in grain, and complemented the midrange very well.

Dynamically speaking, the 572SE didn't sound small. Dynamics were well presented, while the contrast between soft and loud, and the expression of fine playing, were both properly communicated. It wasn't as masterful as the CAD805C, but it still set a high standard, this evinced by a lively, upbeat character with a very good sense of rhythm and fine timing. For example, all sections of jazz percussion were set nicely in time to drive a clean, solid beat.

As with other singled-ended amplifiers, the 572SE could be driven well past its clipping point (as monitored with a peak-hold power meter), and while there was certainly some sonic deterioration past the overload point, this was surprisingly mild. In moderation, clipping overload either passed unnoticed or had little effect on overall performance. In practice, the 572SE

played about twice as loud as its 20W specification would suggest. The clipping sound was soft and of low harmonic order, in contrast to the "knocking on the glass" sound of high-feedback clipping. The way the music goes on playing even in clip indicated that the 572SE has good overload recovery behavior, a matter often neglected by designers. This is an area in which Cary can claim some significant skill.


Certainly the finite output impedance of an amplifier such as this will undergo some interaction with your chosen loudspeaker—unless it's one of those choked with electrical compensation in order to provide a uniform impedance for the amplifier. This interaction has to be taken into account, but overall I feel that this small amplifier attains significant greatness. (For those who follow my personal scoring system for overall merit, the Cary 572SE achieves a handsome 35 points.)

I found the CAD572SE to be a musically lively performer with pleasing dynamics; it preserved the life of performances and readily held my attention. The more I listened to it, the more I came to value this design as a smaller-scale version of the 805C itself.

Conclusions

This smaller design proved to be a true half brother to the mighty CAD805C, specifically where the "half" concerns the rated watts output. Given our approximately logarithmic hearing characteristic, that 3dB or half-power difference is a relatively small step in audible volume. The 572SE isn't an 805C, although its inherent musicality—the combination of resolution, transparency, dynamic expression, and rhythm—compares well to that of the 805C. It isn't as authoritative, load tolerant, or vibrant as its big brother, but what a great amplifier it must still be to withstand such a comparison.

The 572SE did well in the lab for this class of amplifier, has very good build and finish, and creamed the sound-quality tests—in short, I found it to be quite a gem, an amplifier to cherish. It strongly hints to me that I should abandon the audio rat race and listen to more music and less gear.

In its own right, the 572SE is a top-notch performer, a class-winning SE triode amplifier that deserves to become a classic. It's got that ability to draw attention away from itself and encourage one to focus one's ears on the music. I'll happily cast my vote for a Class A rating in *Stereophile's* "Recommended Components" listing. 

Associated Equipment

Source components: Krell KPS-20i/1 CD player, dCS Elgar D/A processor (both used with and without a control preamplifier). Linn LP12/Lingo turntable, Naim ARO tonearm, van den Hul GLA1V phono cartridge.

Preamplification: Conrad-Johnson ART and PFR line stages, Conrad-Johnson Premier Fifteen phono preamplifier.

Power amplifiers: Krell FPB600 and FPB650M, Cary CAD805C, Conrad-Johnson Premier Eight A and CAV50, Bel Canto SET 40.

Loudspeakers: Wilson Audio WITT 2, Avantgarde Duo-2, Sonus Faber Electa Amator II, Quad ESL-63, Spondor SP2-2.

Cables: Interconnects: van den Hul The First, Transparent Reference XLV and Music Link Plus, various Siltech combinations. Loudspeaker cables: Transparent XL and MLP, Siltech Silver Ribbon.

—Martin Colloms

Koetsu Urushi & Lyra Parnassus D.C.t moving-coil phono cartridges

What makes a phono cartridge worth \$3500 or \$4000? Pride of ownership? Snob appeal? Sound? Tracking ability? Exotic materials? Styling? Labor cost for skilled artisans? Special ether? Cool wooden box? All of the above?

Can you really get your money's worth from cartridges that cost more than non-*Stereophile* readers spend on an entire stereo system? From ones that cost *twice* as much? They're out there. Is it worth having to handle something so pricey you have an anxiety attack every time you want to play a record?

Unfortunately, yes — assuming the rest of your system, especially your analog front-end, is capable of resolving what today's best cartridges can deliver. Do they do things the good \$1000 and \$2000 cartridges don't? In my experience, yes. Nonetheless, once past the \$2000 price point, the curve of diminishing returns begins to flatten rather dramatically, and the differences become more subtle. They're still significant, but... subtle.

When you're spending \$3500 or four grand on a phono cartridge, you have a right to expect a high degree of sonic accuracy. These days, if you find one expensive, high-performance cartridge

that sounds radically different tonally from the rest, my experience is that it is either highly colored or defective.

If you're fortunate enough to hear a number of top performers under controlled conditions, you'll find that they all achieve a certain level of sonic performance, yet they all sound different in subtle but musically significant ways. In making your choice, you're going to have to examine those differences and blow them way out of proportion — which is what I had to do to review these two contenders, both of which make glorious-sounding music.

Cartridges are often compared to loudspeakers because both are transducers — they turn one form of energy into another. And while speakers and cartridges are the least accurate links in the audio chain, loudspeaker systems are far more complex and must interact with both the amplifier and the wildly variable room acoustic. Cartridges certainly have some tricky interfaces — record grooves, tonearms, phono-stage loads — but today's high-tech cartridge motors are far more accurate and predictable transducers than those used in the past.

All of the high-priced cartridges I've auditioned and reviewed over the past four or five years share certain charac-

teristics that distinguish them from budget models. They all overcome the "edge" and grain structures lesser cartridges tend to impose on the music, but without softening or obscuring transient information and inner detail. (But if you're used to "edgy" performance, these sophisticated cartridges may sound "soft" at first.) In fact, as you'd expect and demand for your money, they resolve transients better and reveal more low-level detail, both spatially and musically, while avoiding the bright/hard or soft/warm tendencies of lesser designs. Overall distortion is much lower as well.

All premium cartridges, to differing degrees, have fewer frequency-response aberrations. They reproduce the frequency extremes with the same authority as they do the midband, and come closer to the ideal "flat" wideband response. But, like loudspeakers, all cartridges have some defining frequency-based character. Some of these characters are accidental; some, I suspect, are purposely "tuned in."

The expensive cartridges I've auditioned are built more carefully than mass-market models, both in terms of the quality and perfection of the parts used and in the way they're put togeth-

Lyra Parnassus D.C.t: Low-output moving-coil cartridge with Ceralloy diamond-coated cantilever, low-mass, Ogura PA line-contact stylus, six-nines single-wind copper coils, five-nines iron core, and body milled from a single piece of titanium. Source impedance: 2 ohms. Recommended stylus pressure: 1.6–1.8gm. Compliance: Approximately 12cu (compliance units) at 100Hz. Channel separation: 35dB or better at 1kHz. Frequency range: 10Hz–50kHz. Output: JVC TRS-1007 standard, 250µV (3.54cm/s, 45° peak); CBS STR-100 standard, 350µV (5cm/s). Recommended load: 50–47k ohms. Recommended tonearm: high-performance, rigid, resonance-free design.
Weight: 10.5gm.

Serial number of unit reviewed: N/A.

Price: \$3495. Retip: \$1850. Approximate number of dealers: 20.

Manufacturer: Scan-Tech, Tokyo, Japan. Importer: Immedia, 2443 Magnolia Street, Oakland, CA 94607. Tel: (510) 893-2573. Fax: (510) 893-2579.

Koetsu Urushi: Low-output moving-coil cartridge, with "special metal" cantilever and bobbin, "specially designed" stylus, six-nines copper coils, samarium/cobalt magnet. Source impedance: 5 ohms. Recommended stylus pressure: 1.8–2.0gm. Compliance: N/A. Channel separation: 30dB or more at 1kHz. Frequency range: 20Hz–100kHz. Output: 600µV (1kHz 5cm/s). Channel balance: within 0.5dB

at 1kHz. Recommended load: N/A.

Weight: N/A.

Serial number of unit reviewed: 82410.

Price: \$4000. Retip and refurbish: \$1800. Approximate number of dealers: 50.

Manufacturer: Koetsu, Tokyo, Japan. Importer: Audio by Meyer, 1754 Main Street, Jacksonville, FL 32206. Tel/fax: (904) 355-0368. Distributor: Musical Surroundings, 5856 College Avenue #146, Oakland, CA 94618. Tel: (510) 420-0379. Fax: (510) 420-0392. E-mail: info@musicalsurrroundings.com. Web: www.musicalsurroundings.com

er. This helps them achieve a better geometric relationship with the record groove. The result is superior separation, which creates wider, better-defined, and more accurate soundstages, more focused images, and better front-to-back image specificity.

When you spend \$3000 or more on a phono cartridge, you should hear an immediate sense of ease, refinement, and liquidity, especially in the midband; a feeling of authority and control over the music; a complete freedom from "electronica" and artificiality. The better cartridges manage to untangle previously impenetrable webs of complex musical information without spotlighting or highlighting anything revealed. You sense that though a hundred events might be occurring simultaneously on the soundstage, you can hear each one individually. You can tune in and out of musical conversations much the way you can between people in a crowded room. And none of the images within the soundstage should appear to come anywhere near the confines of the drivers or cabinets.

Large-scale dynamic events like orchestral crescendos should strike your ears with a fast, violent impulse—uncompressed and completely controlled. And they should recede without a trace, leaving just the echoes ricocheting off the hall walls, clearly defined in a much different space. Low-level dynamic events—frequently occurring simultaneously with the large ones—should be portrayed with equal impulse clarity and detail, but in proper proportion.

Air, space, rich harmonic overtones, explosive dynamics, transparency, woody wood, metallic metal, fleshy flesh, a thousand colors, and a rich, seemingly limitless sonic bouquet—all, impossibly, painted by a stupid little diamond fleck motoring along a black vinyl highway. That's the goal. That's what's possible—performance I've yet to hear equaled by any CD player.

We like to think we get these things with \$295 cartridges, and to some degree we do, but if you've heard either of these cartridges or any top performer, you've most likely heard and appreciated the difference made by superior materials, sophisticated design, precise construction, special ether, a cool wooden box, sleek styling, and snob appeal.

Two different worlds

The original Koetsu Rosewood, introduced to America back in the late 1970s at the outrageous price of \$800, was probably the first cartridge capable of achiev-



Koetsu Urushi moving-coil phono cartridge

ing the performance I've just described. It immediately and convincingly bettered, in most ways, any other cartridge out there—particularly in terms of low distortion, harmonic richness and complexity, and stable, three-dimensional imaging. The original Koetsu laid bare the inanity of multimiked recordings like no cartridge before it.

I'll never forget the first time I heard one. Even though the record was The Cars' *Candy-O*—hardly an audiophile extravaganza—the presentation was so far superior to anything I'd heard that I had to have that cartridge. But I couldn't afford it. Instead, I visited the dealer incessantly to spin discs. (Fortunately, he had the time and we shared the same musical taste.)

Koetsu's distribution in America has been spotty; only recently have the cartridges reappeared on these shores, imported by Audio by Meyer and distributed by Musical Surroundings. The line runs from the Standard (Red) at \$2500 up to the \$7500 Onyx Platinum. The Urushi is second from the bottom at \$4000—still a breathtaking amount.

I chose the Urushi because I had an opportunity to audition Bob Reina's "vintage" Urushi when he went tone-arm shopping in my listening room. (He opted for the Immedia RPM-2 over the Graham 2.0, and the standard and 12" VPI JMW Memorial arms.) That original Urushi was built by the legendary Yoshiaki Sugano, now in his 90s. I wanted to hear if the "new" Urushi sounded as magical as Bob's original (he owns two—one for safe-keeping). And yes—while Bob and a friend waited and listened, I performed, on the spot, meticulous cartridge setups on all arms.

Mr. Sugano, a swordmaker (and, in his youth, a sport dueler), political science major in college, employee of the Ford Motor Company, Japan, and later of

fledgling Toyota, was also a music lover and a hi-fi nut. His experience making and repairing swords gave him an edge in metallurgy, and, beginning with an Ortofon that he modified, he eventually began building his Koetsus (named for a 17th-century Japanese artist and calligrapher). He made his cantilevers of a "special" iron created for him by a northern Japanese university using a "secret" process; he sourced his rosewood bodies from other craftsmen, his pre-aged rubber suspensions from another supplier. Then he built them himself, one at a time, and listened on a vintage Garrard 401 fitted with an arm of his own design. Truly the stuff of legend.

Mr. Sugano no longer has the dexterity for such arduous work and has passed the business on to his sons. Today's Koetsus are built by Fumihiko Sugano. Like father, like son? That's what I wanted to find out.

The Urushi's coils are wound from six-nines copper (99.9999% pure). The magnet system is samarium/cobalt, while the cantilever and bobbin (around which the coils are wound) are made from that "special metal." All that Koetsu will say about the stylus is that it is specially designed for them. The more pricey Koetsus use a platinum alloy magnet and silver-clad six-nines copper wire. "Cladding" is different from "coating": the hollow silver is slowly and painstakingly slipped over the copper inch by inch, manually. The Urushi is a snazzy looker: a black-lacquered block patterned with wavy gold glitter. Unlike most modern designs, which feature convenient tapped and threaded mounting holes, the Urushi requires nuts. Output is high for a low-output moving-coil: 600µV (1kHz at 5cm/s).

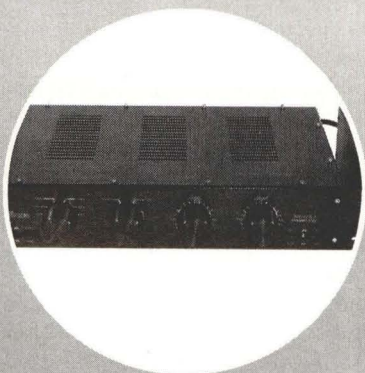
If Koetsu shrouds itself in mystery, Scan-Tech, creator of the Lyra cartridge line, is an all-nuts-and-bolts technocracy. Designed by the very accessible

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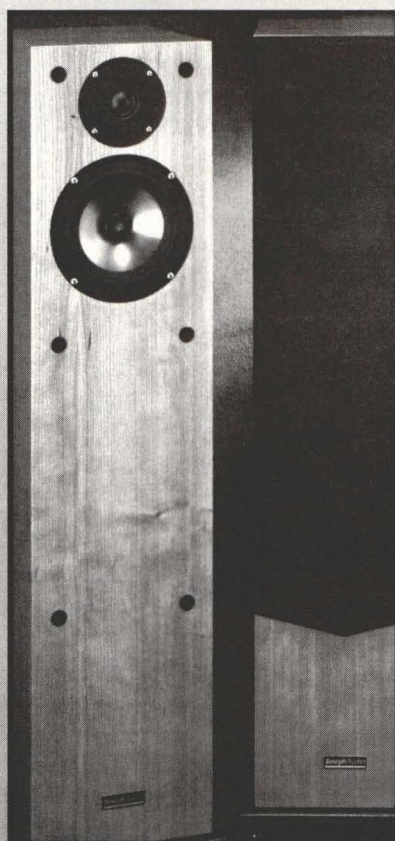
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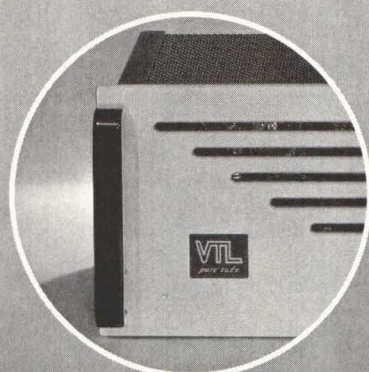
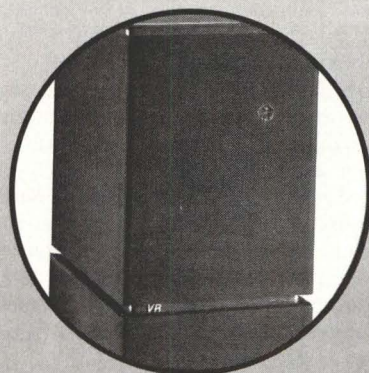
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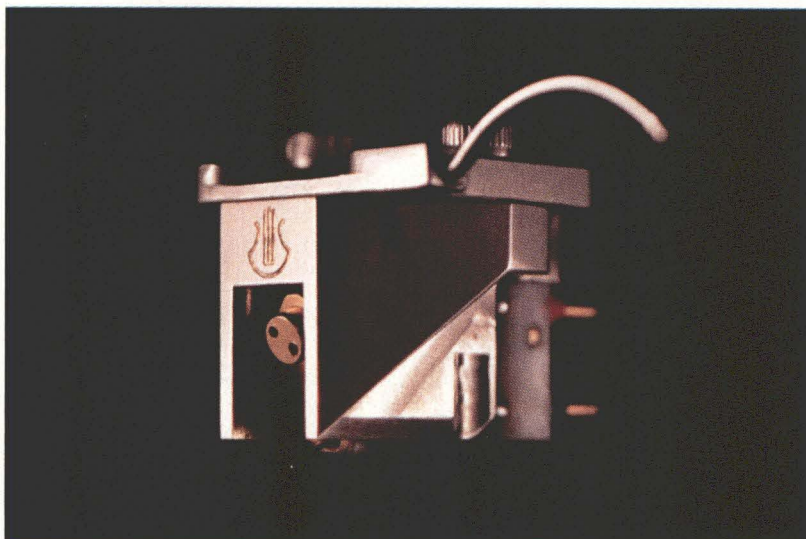
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Jonathan Carr and built by Yoshinori Mishima in Japan, the Parnassus D.C.t holds no mysteries, but is an upscale version of the very popular Clavis D.C. (See review in *Stereophile*, Vol.19 No.4.)

According to Carr, the D.C.t's body is milled from a solid block of aircraft-grade titanium (hence the "t" suffix). Like the Clavis D.C.'s, the Parnassus' cantilever is fabricated from Ceralloy — an aluminum alloy reinforced with ceramic "whiskers" — which Carr told me is stronger than carbon fiber. Unlike the Clavis, the cantilever is further stiffened with a diamond plasma coating.

The diamond stylus is the same as the Clavis's, a 60µm-square Ogura PA profile — a line-contact-like shape — which Carr says is the smallest and lightest made. Ogura also puts the diamond in the laser-bored cantilever and builds the cantilever assembly for Scan-Tech from parts they supply to Ogura, including the five-nines iron "former" (bobbin) and six-nines copper-coil wire, which is wound in a single layer. According to Carr, only two companies in Japan supply diamonds and build cantilever assemblies: Ogura and Namiki.

Like the Clavis D.C., the Parnassus D.C.t uses a unique construction technique. Whereas most cartridges feature a self-contained motor assembly (cantilever, coils, magnet/pole-piece assembly, suspension wire, stopper pipe) affixed to a body, the Clavis D.C. and Parnassus D.C.t feature motor assemblies that are integral to their bodies. This requires ultraprecise machining of



Lyra Parnassus D.C.t moving-coil phono cartridge

the titanium block in order for all parts to fit and maintain proper geometry. (For more on this, please read the Clavis D.C. review.)

Why did Carr design it this way? For added rigidity. Carr sees music as a series of impulses (Yikes! Digital!) rather than as a continuous stream. As energy travels up the cantilever and into the motor assembly, it needs a path to get out of the way or it will travel back down and interfere with the next impulse, already on its way up. By mechanically grounding the "stopper pipe" — *ie*, the back end of the cantilever assembly — into a tiny hole machined into the titanium body, Carr

feels he's given the energy a way out so it can be transmitted to the arm, where some of it is dissipated as heat and the rest (on some arms) is grounded in the plinth. That's the theory.

At \$3495, the D.C.t is almost double the price of the \$1895 Clavis D.C. Why? According to Carr, the more rigid titanium body is far more expensive than the Clavis' aluminum one, and machining is far more difficult and time-consuming. In addition, the diamond coating on the cantilever, which is done in Germany, adds cost, as does the more complex internal assembly. Also, unlike most cartridges, the Clavis D.C. and Parnassus D.C.t do not use conven-

Cartridge FAQs

In preparation for this review, I sat down with Scan-Tech's Jonathan Carr to ask him some general questions about cartridges, and about the Parnassus D.C.t in particular.

I was curious to know how these tiny, perfectly shaped and polished diamond styli are fabricated. Carr told me that the rough diamond is bonded to a larger piece of metal and that the entire assembly is then carved away, taking metal and diamond. Finally, the polished diamond is removed from the metal carrier and inserted in the cantilever's laser-bored hole using a microscope and a special jig. The more extreme the stylus shape, the higher the quality of rough diamond that must be used.

How long should a stylus last? Carr said that with *perfectly* clean records

and properly designed arms (*ie*, rigid bearings, carefully designed antiskating), wear can be a "benign phenomenon." The wear will occur, but it will be consistent over a long period of time and won't damage the record: all that will happen is the stylus tip will become rounder and rounder. Damage occurs when dirt makes contact with the edges of the stylus contour, causing a chip to flake off the diamond, which accelerates rapid wear. The resulting sharp edge creates the strong possibility of vinyl gouging and striations. Record and stylus cleanliness are the big determining factors. You have been warned!

I was curious to know how Yoshinori Mishima builds cartridges: one at a time, or in batches? Carr said he assembles in batches of 20 to 30 at a

time, performing the same task on 10 at a time until the cartridges are finished. Then each is listened to on a special pre-aligned tonearm and spec'd. If the cartridge meets specs, it is then fine-tuned using music, and "voiced" by changing certain things that Carr did not want to talk about, but which must relate to tensioning the suspension and making changes to the rubber damping. All of this is done by hand and can be learned only by experience.

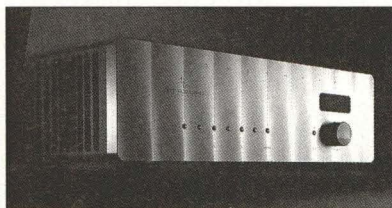
Does the sound of a cartridge change over time? According to Carr, once the initial break-in is complete, a properly designed and built cartridge should not change sonically for many years — assuming, of course, that it is handled with care the entire time.

—Michael Fremer

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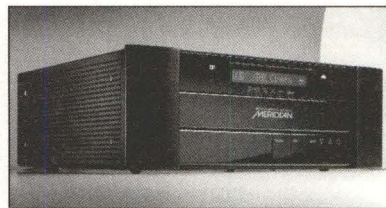
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tional magnet/pole-piece assemblies. Instead, they use a pair of very powerful ring magnets threaded directly onto the cantilever assembly.

Again, while this design aspect is key to the cartridge's performance, it—and many other aspects of cartridge design in general—are covered in great detail in the Clavis review in the April '96 *Stereophile*. Please read it if you are at all interested in this fascinating aspect of analog sound reproduction.

The Parnassus D.C.t puts out 350 μ V at 5cm/s using the CBS STR-100 test record, and 250 μ V using the JVC TRS-1007 standard record (Lyra's normal reference). (Perhaps I'll cover the controversy over phono-cartridge output measurements in a future "Analog Corner.")

Setup and sound

I auditioned both cartridges extensively (such work!) in the Immedia RPM2, Graham 2.0, and Simon Yorke arms. For the sake of quick back-and-forths and to hear the effects of different arm wires, I did most of my final A/B listening using the Graham 2.0.

First of all, throw out all the clichés you may have heard about these two cartridge makers. The Koetsu is not "soft and rolled" on top, nor does it have a

warmth-inducing midbass hump. Nor is the Parnassus D.C.t "bright and analytical" or "wimpy," as some have incorrectly characterized the original Parnassus.

Both of these cartridges did every-

**The Koetsu was
slightly richer in the
lower midrange,
which made strings "sing"
with a rich, vibrant,
ever-spreading glow.**

thing described in this review's introduction. You pay the big bucks for ease and grace—and freedom from "mechanicalness"—and you get them. I did, anyway. Both were dynamically and spatially explosive, creating an accurately shaped soundstage that had no connection to the loudspeakers. Both focused three-dimensional images everywhere on the stage, and both resolved incredible amounts of low-level and harmonically adjacent information.

For example, on *The Beatles*, at the end

of "The Continuing Story of Bungalow Bill," everyone's singing "Hey, Bungalow Bill..." Can you easily hear that it's Ringo's nasal, three-dimensional voice singing in the background? These cartridges didn't just pass on low-level information, they served it up on a platter.

Not that these two fine performers sounded identical. They didn't. The tonal clichés were reduced to "tendencies." The Koetsu was slightly richer in the lower midrange, which made strings "sing" with a rich, vibrant, ever-spreading glow. The Parnassus D.C.t gave me more of the bow, a bit less of the body. On Sinatra's *At the Sands*—a fantastic Lowell Frank recording—the D.C.t gave me more of the live event (the nightclub ambience and PA sound), the Koetsu more of Frank's direct mike feed—a more intimate Frank, but with less of the context.

It is precisely because both cartridges were so revealing that different arm cables, loadings, and slight changes in setup had such profound effects, and could even make one cartridge almost mimic the other.

The title cut from a British RCA pressing of David Bowie's *The Man Who Sold the World* is a really fine Ken Scott Trident Studios four-track recording. (Forget the digitally remastered Rykodisc LP.) In the left channel are a guiro "scratcher," a wood block, and a processed electric guitar; in the right channel are an acoustic rhythm guitar and, way in the background but very cleanly recorded, the drums: long tom and snare runs punctuated by rich, splashy cymbal work. In the middle are Bowie—slightly flanged or processed some other way—the bass, and what sounds like a primitive analog synthesizer.

Using Cardas' new Neutral Reference tonearm cable (speaking of throwing away clichés, there's nothing soft and warm about this cable; it's superbly transparent and extended on top), the Parnassus D.C.t delivered the scratcher with a perfect balance of gourd and percussive etch as the striker rides along the instrument's undulating ridges. The woodblock "popped" cleanly and warmly. Bowie's voice rippled with the flange effect. In the right channel, the acoustic guitar strums had both string and body, and the cartridge delivered the complex timbre and tonality of the drums intact. The distant cymbals splashed and shimmered with incredible texture even as they decayed into blackness. Despite its obscure placement in the mix, I could easily listen to just the drum performance for the full song and hear a low-level but tonally

Associated Equipment

Tonearms: Graham 2.0, Immedia RPM2, Simon Yorke.

Turntables: VPI TNT Mk.IV, Simon Yorke.

Preamplification: Ayre K-1, K-3 preamplifiers; Stax SRM-T1W passive line section; Lehmann Black Cube, Audio Research PH-3SE, Pass Aleph Ono phono sections.

Power amplifiers: Conrad-Johnson Premier Twelve and VTL MB 450 vacuum tube amplifiers.

Loudspeakers: Sonus Faber Concerto Grand Piano, Audio Physic Virgo, Audio Physic Rhea subwoofer.

Cables: Cardas Neutral Reference, Precision Interface Technology, XLO Type 3.1 Signature phono cables; Yamamura Millennium 6000, Cardas Golden Cross, Electra-Glide interconnects; Yamamura speaker cables; Yamamura Quantum, Electra-Glide AC cords.

Accessories: Sounds of Silence Vibraplane active isolation stand, Zoethecus equipment stand, Yamamura Millennium bearing stands, A.R.T. Q dampers, D.J. Kasser Black

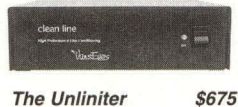
Diamond Racing cones, Walker Valid Points, Symposium Acoustics and Bright Star isolation bases, ASC Tube Traps, Shakti Stones.

Among the LPs I used: Ruggiero Ricci's *Virtuoso Showpieces* (London ffs CS 6039), Nick Lowe's *Jesus of Cool* (Radar RAD 1), Massenet's *Le Cid: Ballet Music* (Klavier/Acoustic Sounds KS 522), Janis Ian's *Breaking Silence* (Analogue Productions APP 027), *Peter, Paul and Mary* (Warner Bros. WS 1449, gold label), Nat King Cole's *At the Sands* (Capitol), Sinatra's *At the Sands* (Reprise), Holst's *The Planets* (Previn/LSO, Japanese EMI Pro-Use series), Sibelius' *Violin Concerto* (Heifetz/Reiner/CSO, RCA Living Stereo), Muddy Waters' *Folk Singer* (Mobile Fidelity), Bach's *Brandenburg Concertos* (Telefunken/ARS), *Dance Music of the Renaissance* (DG Archiv/Speaker's Corner), Joni Mitchell's *For the Roses* (Atlantic/Asylum), and Malcolm McLaren's *Duck Rock* (British Charisma).

—Michael Fremer

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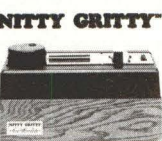
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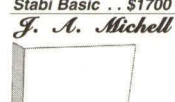
Model 1400 RB-250 Tonearm & Benz Glider ..\$1995



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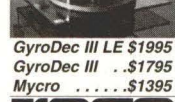
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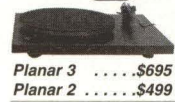
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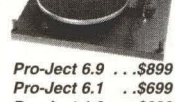
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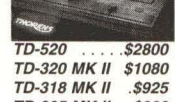
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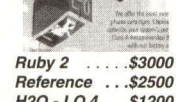
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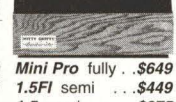
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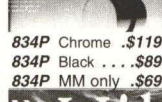
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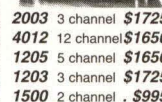
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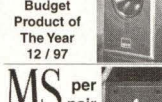
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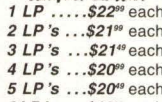
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3 LP's ..\$21⁹⁹ each

4 LP's ..\$20⁹⁹ each

5 LP's ..\$20⁹⁹ each

6 LP's ..\$19⁹⁹ each



MO-FI LP's ..\$25

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Interconnects per pair

Diamond ..\$550.5m

Ruby ..\$425.5m

Emerald ..\$310.5m

Opal ..\$200.5m



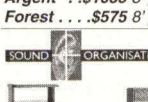
Dragon ..\$3695 8' pr

Sterling ..\$2335 8' pr

Clear ..\$1535 8' pr

Argent ..\$1055 8' pr

Forest ..\$575 8' pr



A. Z560 55.1lb ..\$350

B. Z545 39.7lb ..\$290

C. Z510 24.3 lb ..\$240

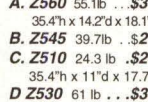
35.4" h x 11" d x 17.7"

D. Z530 61 lb ..\$350

20.7" h x 15.7" d x 35.4"

E. Z524 24.1" ..\$125

Z518 18.2" ..\$125



A. CF35 35" ..\$325

CF45 45" ..\$375

B. Ultimate ..\$290 pr

C. Steel ..\$149 pr

D. Euro ..\$80 pr

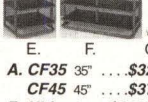
E. Euro Audio \$260

F. Euro Video ..\$250

G. AF24 ..\$60 pr

AFSat ..\$90 pr

\$79⁹⁹ pr. Adjustable Speaker Stand



M1000SV ..\$45.5m

M1000V ..\$30.5m



A. #40 locking ..\$40 4p

B. #9 6mm ..\$12 4p

C. #9 5mm ..\$12 4p

D. #8 6mm ..\$6 4p

E. #18 ..\$10 2p

F. #7 Banana \$40 2p

G. #5 Banana \$15 4p

H. #2 Banana \$16 8p

I. #35 Silver ..\$10 4p

J. #3 Spade ..\$8 8p

K. #1 Pin ..\$8 8p

L. #DF ..\$6 2p

audioquest.



Interconnects per pair

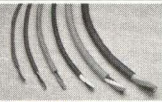
Quartz ..\$144.5m

Ruby ..\$100.5m

Topaz ..\$65.5m

Turquoise ..\$40.5m

Jade ..\$26.5m



Midnight ..\$20 foot

Crystal ..\$10 foot

Indigo ..\$7 foot

Type 6 ..\$4.50 foot

Type 4 ..\$2.50 foot

Type 2 ..\$1.50 foot

F18 ..\$1.95 foot

F14 ..\$1.95 foot

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Interconnects per pair

Sapphire ..\$192.5m

TQ1 Triode ..\$104.5m

Tourmaline ..\$69.5m



Interconets per pair

Signature \$450.5m

Reference ..\$240.5m

Ultra ..\$119.5m

Pro 125 ..\$35.5m

VDO ..\$30.5m

rich, dynamically convincing portrayal of the instrument.

Switching to the Koetsu, the scratcher's percussive etch was ever so slightly diminished in speed, but the hollowness of the gourd was revealed in somewhat greater relief. The woodblock "popped" a bit less quickly, but with a bit more wood sound. Bowie's voice lost a touch of the flange effect, the acoustic guitar revealed a bit more body and a little less string, the toms were rounder, the snare a hair less distinct, the cymbals lost some shimmer and "splashiness," and the performance was slightly obscured dynamically by the rest of the mix.

Both of these cartridges had outstanding bass response: deep, tight, rich, and complex. The Koetsu's richness did not come at the expense of bass definition or control, nor did the Parnassus D.C.t's speed and detail rob the bottom octaves of weight. Overall, though, the D.C.t's bass was somewhat tighter and more explosive, the Koetsu's richer and somewhat slower.

I auditioned both cartridges with a variety of arm cables. Depending on the choice, I could tamp down and soften the Parnassus' top-end extension and make it resemble the Koetsu's slightly warmer overall tonality, but not its subtly lush lower midrange. Some cables obscured the cymbal splashes on the Bowie cut to where I was hardly aware of them. A capacitance issue? Perhaps. In any case, what I heard with any of these revealing cartridges was, to a great degree, related to associated equipment, setup, and loading.

Speaking of which, I tried both with the preamp set to 47k ohms but preferred 100 ohms. In most cases I still think a moving-coil cartridge needs to be loaded down to prevent ringing. Ultimately, you have to let your ears be the judge—but don't confuse distortion (underdamped ringing) with spatiality.

The subtle tonal difference between the cartridges had a predictable effect on soundstaging and imaging. The D.C.t provided an airier, taller stage, with greater rear-stage "spotlighting." The Koetsu's warmer, richer balance provided a somewhat "wetter" sensation of air, as if the event had been recorded on a more humid day. Soundstage height was somewhat lower, but there was a greater sensation of depth in the corners.

Some may argue with this assessment, saying, "What really counts is which is more accurate to the sound of the venue in which the recording was made." But that depends to a large degree on the tonal balance and imag-

ing and soundstaging abilities of not just the cartridge, but the rest of the system as well. That one cartridge/speaker combination adds up to a balance that accurately portrays the venue of a particular recording does not necessarily mean that the cartridge is more "accurate"—except in that system.

While the Koetsu wasn't soft and overly warm and the Parnassus D.C.t wasn't bright and aggressive—these two cartridges are way too refined and care-

**Both of these cartridges
are hand-built
by skilled artisans
who push, pull, and bend
these babies into
submission before
they reach your hands.**

fully "voiced" to be so unobtrusive about their overall sonic "tendencies"—those who value transparency, "speed," retrieval of inner detail, and stolid but exciting neutrality will prefer the Parnassus D.C.t's fast, energetic portrayal of transients, reverberant tails, and spatial cues. The Parnassus D.C.t was in many ways an "electrostatic"-like transducer. In fact, it is the most revealing, detailed, and transparent cartridge I've ever heard in my system. I heard new details in just about every record I played.

Those who place greater value on image solidity and three-dimensionality, harmonic richness, liquidity, and tonal opulence—a light honey cast that makes strings, reeds, and vocals sing and seem to "open up" like a great vintage wine—will gravitate toward the Koetsu. The Koetsu is a "planar magnetic" or "ribbon"-like transducer, and one of the two most liquid cartridges I've yet auditioned (the other being the Crown Jewel). And for longtime Koetsu fans, I'm happy to say the new Urushi sounds very similar to the vintage one I auditioned over a year ago.

What's really impressive about these cartridges is that both have enough of the other's strong suits to make them enjoyable, regardless of your sonic preferences. The Koetsu was particularly engaging on the Heifetz and Ricci records, but the D.C.t was also credible, with just a slight shift of emphasis. The D.C.t was more convincing on live recordings, conveying more of the room

sound and atmosphere—the D.C.t was *the* cartridge on the Sinatra record—but the Koetsu was "lively" enough to be exciting. It could rock, too, though not quite as dynamically.

Nonetheless, there are some cautions: On a warm, lush, soft-sounding, all-tube system coupled with planar magnetic speakers—I'm thinking of the systems George Cardas used to bring to CES—the Koetsu might be too much of a good thing. Likewise, the D.C.t coupled with a Krell/Wilson or Levinson/Martin-Logan system might take things too far in the other direction. The D.C.t's low output means it must be used with a low-noise/high-gain phono section to get the dynamic, high-resolution performance of which it is capable. Audiophiles and reviewers who complain about this cartridge's dynamics should look to their phono sections and/or tonearms. I auditioned these cartridges using a variety of phono sections and active and passive line sections. During the last few weeks of the reviewing process I used the Ayre K-1 solid-state preamplifier—my new reference, which I've purchased. Its combination of ultra-low noise, tonal neutrality, transparency, and high output proved ideal for both cartridges.

Conclusion

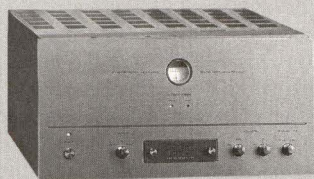
Both of these cartridges are hand-built by skilled artisans who push, pull, and bend these babies into submission before they reach your hands. Both come in cool boxes, are made from exotic materials, have great snob appeal, and will give you pride of ownership. Both have a special ether that can be seen only under particular, mysterious conditions I'm not allowed to divulge. And both will cause anxiety attacks during installation and with each play. But if you treat them right, they'll do likewise, and give you years of listening pleasure.

Both of these cartridges demand ultra-rigid-bearing tonearms and medium- to high-mass arms to perform at their peaks—and meticulous setup. Sloppy bearings and resonances will accentuate their essential and positive characters in negative ways: the Koetsu will sound sluggish and unfocused, the Parnassus D.C.t edgy and thin. If you hear those qualities with these cartridges, the fault lies elsewhere!

If you're disappointed that I'm not telling you why one cartridge is "better" than the other, sorry. These are two fantastic performers; I have my preference (the D.C.t), but it shouldn't necessarily be yours. ☒

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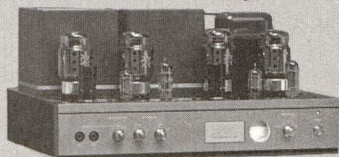
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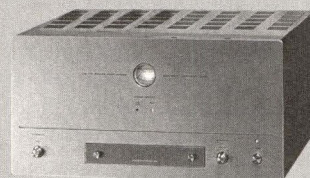
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Spotheim La Luce turntable with SpJ tonearm

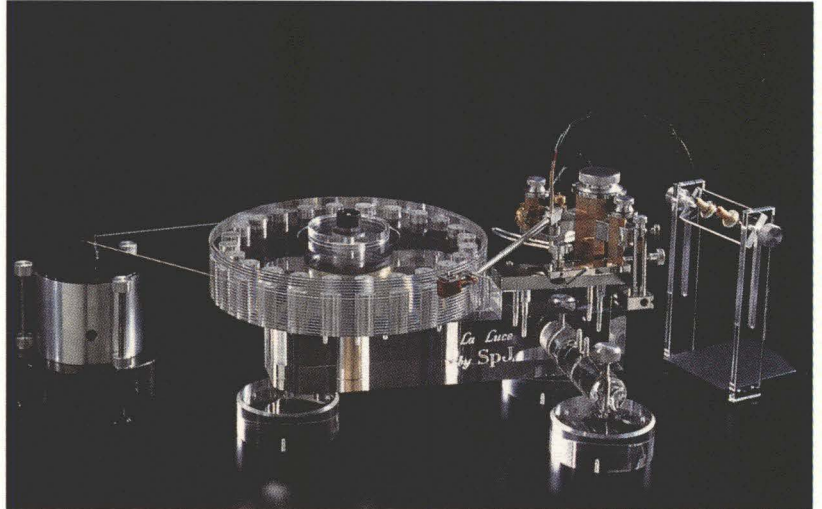
La Luce turntable's elegant form usually stops audiophiles dead in their tracks. Then comes the long, low "Wow." I'm hardly immune myself. And that's not even considering the sound, which has always been wonderful, as it was in the Joseph Audio/Cardas room at CES '98.

Wonders never ceasing, La Luce was designed by Mrs. Judy Spotheim-Koreneef, an Israeli living in Eindhoven, Holland. Spotheim is proud to explain that her turntable was designed in the manner of a precision measuring instrument and manufactured to extremely fine tolerances from materials chosen to ensure neutral and accurate playback. So when George Cardas told me that he was importing this paean to analog beauty, my jaws snapped around the bait.

La Luce proper

La Luce 'table is described by Spotheim (pronounced "Schpot-hime") as a low-energy-storage, direct-coupled, nonsuspended design driven by a stand-alone motor and a belt of elastic thread. The turntable's transparent, 2"-thick platter is machined from a solid block of acrylic and has a row of stainless-steel cylinder weights embedded in its outer edge. The handmade bearing assembly, snugged inside an attractive black Delrin housing, is individually matched to a chrome-hardened steel spindle shaft. The transparent central acrylic block contains the bearing housing and the armboard assembly for the dedicated SpJ tonearm. (The arm is available separately for use with a variety of turntables.)

Bolted perpendicularly to the underside of the central block under the armboard side is a 9" acrylic cylinder (about 1½" thick) pierced at either end by height-adjusting screws. La Luce sits triangulated on these and on a third fixed leveling screw set outboard of the bearing housing. The concave tips of the threaded height-adjusting screws rest on small ball bearings set within cups at the centers of three supporting acrylic footers of about hockey-puck size. (The armboard side gets smaller balls than the bearing side.) Three rubber O-rings are supplied for optional



Spotheim La Luce turntable with SpJ tonearm

use under the supporting footers.

Spotheim recommends that the 'table be placed on a very dead-sounding platform, one immune to feedback and "drumming effects." The motor should be placed on a separate platform that doesn't make contact with the 'table's platform. Placing either or both on springy supports will make for inconsistent belt tension and thus speed instability. When he came to set up the turntable, George Cardas brought along a Bright Star Air Mass 2 and Big Rock 1, which together provided a superlative level of isolation. The Air Mass 2/Big Rock 1 combo sitting atop a PolyCrystal equipment rack worked to perfection under La Luce: I could jump up'n'down next to the stand with no ill effects (except to myself). The hefty, Bauhausian

motor sat on a Signal Guard II Resonance Attenuation Platform fitted with PolyCrystal spikes on a separate PolyCrystal equipment stand set at about the 9:15 position.

Arm base

The impressive-looking La Luce arm base is machined from stainless steel and consists of three main parts: the ground-plate, the VTA pillar, and a canted horizontal platform that extends out from it. The 15mm-thick ground-plate is bolted directly to the 'table and supports the overhang micrometer, its locking screw, and the VTA pillar's horizontal rails. Each full turn of the overhang micrometer knob changes the distance of the pivot from the spindle by 0.5mm (0.019685") forward or back over a

Description: nonsuspended turntable with dedicated pivoted SpJ tonearm and elastic-thread-driven stand-alone motor and housing. Bearing: J.C. Zwart Delrin chrome ball bearing, 55mm diameter. Bearing shaft: polished chrome-hardened steel, 15mm diameter; thin-film Teflon spray lubrication.

Dimensions: 12" W by 16" D by 11" H. Weight: 35 lbs without the motor.

Serial number of unit reviewed: Not noted.

Price: \$18,500 with tonearm. Approximate number of dealers: 25.

Manufacturer: Judith Spotheim-Koreneef, Eindhoven, The Netherlands. US distributor: Cardas Audio, 480 11th Street SE, Bandon, OR 97411. Tel: (541) 347-2484. Fax: (541) 347-2301. E-mail: LaLuce@cardas.com. Web: www.cardas.com.

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range of 38mm ($1\frac{1}{2}$ ").

The horizontal platform either side of the VTA pillar is raised and lowered with the VTA micrometer knob. Each full turn represents a height adjustment of 1mm (0.03937"), a lock keeping the setting in check. Reference marks are engraved on a plate around the base of the VTA knob (adjustable during play) to keep track of your position.

The platform carries the main pivot. It's made of hardened, grained, polished steel with an upward-pointing tip centered in a cup that takes a dollop of damping fluid, if so desired. (I recommend that you so desire.) Just next to it, the azimuth micrometer pillar raises and lowers a small platform on which a secondary "traveling pivot" rides. (The SpJ arm is a dual-pivot design; more on this presently.) Amazingly, azimuth can be adjusted during play. As a result, what is a frustrating and time-consuming task with the Forsell Air Force One takes less than five minutes with La Luce using the Audio-Technica AT6020 Cartridge Analyzer and test LP. I *really* appreciated this *beau coup*. But with only one SpJ arm on hand, I had to start from ground zero each time I changed cartridges.

(I know—you feel for me. But I have it much easier with the Forsell. I've amassed a collection of arms and slider combos with cartridges installed—azimuth and counterweight already set—ready to swap in at a moment's notice. Well, my shrink says you can't have everything.)

The horizontal platform also carries a central grounding post that extends from the canted edge on the far side of the platform. A Cardas high-purity shielded copper wire terminated with a spade lug is provided to tie the arm to ground at the preamp. If hum persists, additional grounding options include a smaller wire that clips to a pin on the arm itself. The main grounding post is a small, beautifully crafted aluminum cylinder, adjustable for angle, that features a "soft-bite" clamp that gently keeps the arm wires out of harm's way.

On the near side of the platform sits a pillar with yet another micrometer-operated device that raises and lowers the arm-lifter mechanism. Setting its height relative to the arm is easy and convenient, regardless of VTA. The edge of the platform becomes obliquely angled just beyond the lifter micrometer pillar. Pointing at an adjacent plate, it indicates the VTA setting—the tip is at the same horizontal level as the pivot tip. The VTA height indicator, which is attached to the base ground-plate, has

an engraved scale facing the adjacent oblique-angled tip of the platform. Each of the longer lines on the scale above and below the center line represents 1.25° of change at the pivot tip. Turning the VTA height-indicator "instrument" raises and lowers the engraved scale. Calibrating the zero line with the tip of the horizontal platform marks a reference point for VTA when it's changed.

Really well thought out.

SpJ tonearm

With those buttery-smooth micrometers, the SpJ tonearm allows for precise and accurate adjustments of overhang, azimuth, and VTA. The armtube is

With those buttery-smooth micrometers, the SpJ tonearm allows for precise and accurate adjustments of overhang, azimuth, and VTA.

machined from a solid titanium cylinder of six different inner diameters and five different outer ones; only three of the latter are visible. The titanium "cartridge mounting platform" (headshell) is crimp-connected to the armwand, which in turn is crimped at the pivot end to a titanium block. On the bottom of the block sits a cup with a jeweler's diamond bearing fitted over the fixed pivot on the base. A secondary down-pointing pivot is secured and locked from the top of the block.

Behind and slightly below the pivot sits a decoupled brass micrometer-operated counterbalance that features three removable weight screws; three heavier screws are provided to adjust for a wide range of cartridges. The Side-Thrust Bias Controller (Spotheimese for anti-skating device) comprises a pair of smallish weights riding a horizontal threaded rod suspended on a carrier above the counterweight. Finishing it off, Cardas pure-copper arm wires are twisted together, reinforced, and run in parallel through the arm to extend up out of the titanium block, where they're terminated with Cardas rhodium RCA female connectors.

The SpJ's headshell has an offset angle of 22.53° , appropriate for an Effective Length (stylus tip to pivot) of 244mm. As most cartridges' stylus tips are 8–9mm in front of the mounting holes, the SpJ headshell is slotted to

allow a generous 3.75mm range of adjustment. The headshell, finger holder, armtube with damping material, and signal cables and connectors weigh a total of 13gm. Though cartridges of medium-high compliance can be used, medium-, medium/low-, and low-compliance types are the most suitable. Given that, the arm can deal with cartridges weighing from 6gm to more than 18gm. And because the mass of the counterbalance can be adjusted with 14 weight combinations, it can be set in close proximity to the pivot point.

Now to the Duo-Pivot design. Spotheim explains that her design takes advantage of the fact that a so-called unipivot arm—*ie*, one without an outrigger weight—will tip over to the arm's offset angle side. By adding a down-pointing tip on that side to act as a secondary pivot traveling laterally along an arc on a smooth platform close to the main pivot, very fine azimuth adjustments are made possible, even during play! Moreover, constant azimuth is maintained regardless of deviations from a perfect horizontal plane.

The Side-Thrust Bias Controller frees the arm from the tracking interference that Spotheim feels is inherent in most typical designs. Usually antiskate devices are fixed at one end to the armwand, and to the arm's base at the other. "Regardless of whether they utilize a pulling spring, a spring pulling a string, a string pulled by a dangling weight, or a falling weight with a thread," she told me, "all such devices present a parasitic lateral mass tied to the armwand in front or behind the pivot. The antiskate mechanism is thus activated not only by displacement in the arm's lateral plane, but also by displacement in its *vertical* plane, inhibiting the motion of the arm, especially when tracking records with any sort of warp. In contrast, the Side-Thrust Bias Controller doesn't present the arm and the pivot with an added lateral mass, nor does it tie or connect the armwand to any external fixed point. The result is it doesn't impair the tracking of the arm."

Pedestal

The arm is accompanied by a heavy stand-alone pedestal that supports the arm wires and the interconnect to the preamp. The pedestal stands to the rear of the 'table between platter and armboard. It's made up of a pair of slotted L-brackets bolted to a base. Between the brackets rides an acrylic board, adjustable for height and tilt and set with a knob on either side of the brackets. Stiff, unforgiving cables can be employed

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without disturbing the arm's lateral movement or rocking the boat—even if you use a floating suspension, as we did.

Incredibly, the pedestal also serves as a workstation for the arm when mounting the cartridge and setting Effective Length! For this purpose, clips attached to the side and top of the pedestal secure the arm in the horizontal and vertical planes. I have *never* played with a high-end device so completely thought through as La Luce. What a pleasure.

Setup

The manual gives complete instructions for installing the platter and mounting the base plate, plus information on drilling “foreign” armboards for other tables. Small wooden wedges are provided for immobilizing the platter during these events. The SpJ arm lets you vary Effective Length by moving the cartridge along the headshell slots, by moving the arm's main pivot, and by twisting the cartridge to change the offset angle. These parameters *can* be set by using the overhang micrometer to move the main pivot relative to the spindle with the arm/cartridge already mounted. You twist the cartridge for the correct offset angle corresponding to the Effective Length you've set, regardless of the cartridge's location along the headshell slots.

The other way, as specified in the

manual, breaks this procedure into two operations. The distance between the main pivot and the spindle is fixed during the arm-base installation (using the Baerwald overhang value as a reference), then the cartridge is aligned for an Effective Length of 244mm when first mounted. This distance is used for both Baerwald and Löfgren overhang values. Once the Baerwald overhang has been set, the switch to Löfgren (and back) can be done without moving the cartridge along the headshell slots. A high-quality metal alignment plate is provided, on which null radii points for both overhang values have been precisely inscribed. Spotheim reminds us that the hole on *her* gauge is precisely placed: cheap alignment gauges with misaligned spindle holes render their null points incorrect by definition.

Setting the pivot-to-spindle distance before the arm is in place need never be repeated, even when changing cartridges or switching overhang values—if that's your bag. Man. One sets the Baerwald value with a supplied metal gauge. A half-circle cut into one end of this snugs against the spindle; a cylinder with a hole drilled in it at the other end fits over the pivot tip. As instructed in the manual, I placed the gauge on the platter, shone a light at it from the other side, and squinted at the platter while raising VTA until the pivot lifted the flat

bottom of the gauge off the platter. A quick turn in the opposite direction lowered VTA until the gauge lay perfectly flat. Catching the sliver of light underneath the gauge as it lifted off was a snap—the pivot tip was now in the same horizontal plane as that of the stylus tip resting on a record. This will also serve as the reference setting for VTA for most cartridges. (The van den Hul Grasshoppers are tall buggers and need greater height to achieve flat VTA.)

This is the time to calibrate the zero line of the VTA indicator plate by adjusting its micrometer and locking it in. Then one winds in the overhang micrometer until the half-moon cutout on the gauge is snug but not squashed against the spindle; lock it in place and remove the gauge.

Having clipped the tonearm to the pedestal, I moved my middle-aged *corpus delicti* over to a well-lit table and mounted the vdH Grasshopper IV GLA. I've been doing this for ages, but Judy Spotheim provides useful tips and the most complete hand-holding instructions on mounting cartridges you're ever likely to see. Once the 'Hopper was snugged in, I moved the arm to the vertical side clips on the pedestal to set overhang. I used the overhang tool—a tube as long as the arm, with a line inscribed around its circumference at one end and a fitting that mates with the arm's bearing at the other. Seating them together, one adjusts the cartridge so that its stylus “falls” into the inscribed line at the other end. Easy, ingenious, effective.

Then it was back to the table to apply the arm to its bearing on the horizontal platform, drop the pedestal in place behind the arm, and hook up the interconnect and ground wires. Then came the pushin' 'n' shovin' of both table and pedestal, until the whole contraption sat perfectly level (at the platter) on the Air Mass 2/Big Rock 1 support.

Having worked *that* out, there was still the offset angle to deal with, using the supplied metal template. Normally you'd sight on the body and parallel it with the lines inscribed on the offset-angle gauge. The 'Hopper *has* no body, of course; and, handmade beauty that it is, nothing lines up or is in any way orthogonal. Stylus pointing *here*, motor canted *there*... fawgedaboutit. Drives some people crazy.

But I don't mind. I lined up the 'Hopper on its *stylus*, with 1.43gm of VTF as measured by the ultra-ultra Winds Stylus Gauge. It took about five minutes of loosening the headshell

Associated equipment

I listened to La Luce mostly with the vdH Grasshopper IV phono cartridge, but spent some time enjoying the Cardas Heart I found installed on the arm when it arrived, George in tow. I also auditioned the Koetsu Rosewood Signature Platinum cartridge for two weeks. (More on that little Japanese beauty in an upcoming review.)

La Luce played alternately into the YBA Signature 6 Chassis preamplifier and the Nagra PL-P, both with their own MC transformers and with the Expressive Technologies SU-1 step-up.

Power amplifiers were the huge Boulder 2050 monoblocks, the equally massive Forsell The Statement, and the glorious, hulking VTL MB-1250 Wotans. Speakers were our JMLab Utopias on PolyCrystal spikes, augmented with a gaggle of RoomLenses and ASC Studio Traps.

Phono interconnect was the new,

incredibly fine Cardas Neutral Reference, as well as my old standby XLO, still hanging out at the top of the heap after all these years—when using Expressive's SU-1, I wired it up with a second run of either cable. Line-level interconnects included TARA The One, Synergistic Research Designer's Reference, Harmonix HS-101 Harmonic Strings, and Ensemble Masterflux. Speaker cables were from the same interconnect families as above, along with XLO's recently arrived The Limited. Power cords were mostly Synergistic Reference AC Master Couplers, and I made good use of the Ensemble's PowerPoint power extender; the many-chassis'd YBA preamp used YBA's own fine, ground-lifted power cords.

And let's not forget the LP#9 and LAST stylus treatments—essential fluids for the contemporary vinyl hound.

—Jonathan Scull

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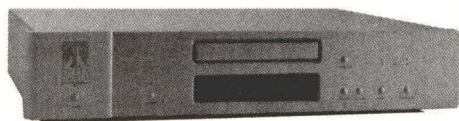
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screws and twisting the cartridge this way and that until I was satisfied the offset angle was right. Use of a low-power magnifier is much recommended for getting everything dialed in just so.

Most of you know me as a dental-floss guy. The Forsell uses a loop of The Dentist's Best Friend as a drive belt between its platter and the air-bearinged Flywheel. La Luce, however, is designed with a *stretchable* drive belt. Spotheim: "I have chosen to decouple and isolate the motor from the platter without resorting to flywheels and additional belts. We have done so by designing the motor's pulley around these special and very fine flexible belts in combination with the various grooves on the motor pulley."

I was supplied with a plethora of belts. There was a white belt of 0.65mm cross-section with a stretch factor of 185%; a thin white belt, the Fine Bianca, with a 0.3mm cross-section and a stretch factor of 85%; and two versions of a delicate little number in blue and pink, known as Baby Thom or Pinky, with a 0.2mm cross-section and a stretch factor of 250%. Baby Thom needed careful handling and a push to start the platter, but sounded sweet and transparent. Spotheim: "The decision to use this frail-looking baby is based on its sonic merits. One Nordic audiophile wrote me that it's the closest you can get to driving the platter by sheer power of telepathy!"

I tried most of the belts, including the "rare" Violeta Special (200% stretch) and an unnamed black belt (180% stretch), but had good luck and best overall performance with the Fine Bianca. It maintained pitch stability and required very little attention. Leveling the stand-alone AC direct-drive synchronous motor and setting its height relative to the platter is easily accomplished via three locking knobs atop the motor-housing base. Fine-tuning the motor's speed relies not on electronics or frequency manipulation but on varying the belt tension by moving the motor closer or farther away from the platter. Moving the belt up or down the motor shaft's stepped circumferences made it easy to place the motor, and made simple the change-up to 45rpm.

The On/Off switch box carries a flexible 3m AC cord and connects to the motor with a standard IEC socket. You're advised to plug it into a circuit unburdened of household appliances, computers, neon lights, or dimmers. There are switches marked Power and Capacitor. For normal startup, one keeps Capacitor engaged so the 'table

spins in the right direction. Once the platter is up and running, you can leave the Capacitor in-circuit, or take it out by snapping the toggle.

Spotheim: "We have chosen to include this special feature because of the enhanced purity of sound when the capacitor is omitted from the motor circuit." She recommends Capacitor-out operation for late-night and weekend listening. "We will, however, not be held responsible for any damage to cartridges or stylus assemblies caused by the platter turning counterclockwise!" You have been warned.

Fine-tuning the motor's speed relies not on electronics or frequency manipulation but on varying the belt tension.

"The AC synchronous motor's pitch can be effected by small frequency shifts that occur simultaneously and in combination with odd-order harmonics of the AC line. This can cause temporary speed variations and unclear pitch. When voltage drifts low, for example, and the capacitor is not in the circuit, the platter can slow down. That's why it's a good habit to leave it in." And so I did, although I thought I detected, as suggested, a slight improvement late at night and on weekends with the Capacitor out of circuit.

The center of the platter is concave. Screwing down the small black knob on the acrylic disc clamp set over the LP's label area, with two rubber washers underneath the LP and around the spindle, made for excellent contact. When I tapped the vinyl, it was obvious how well this scheme worked at tightly coupling vinyl to platter—to remove some records, I actually had to pop the seal at the outside edge with my fingernail! Although the manual recommends stopping the platter before removing LPs, I found it more convenient to leave the 'table up and running during listening sessions. I'm used to changing records on a moving platter; the Forsell takes about two minutes to start and stop!

Azimuth, antiskate, VTA

Evidently Judy Spotheim supplies a phase-switcher phono box to be used with a mono recording to set azimuth, but I didn't have that device from

George, who knew I had the Audio-Technica Cartridge Analyzer (long out of production). Very convenient it was, azimuth perfectly set after only a short time spent raising and lowering the micrometer and checking the meter on the Analyzer. I used the Side-Thrust Bias Controller (STBC) to set antiskating with the *Cardas Sweep Record*, which, in addition to degaussing your cartridge, has a blank band for testing antiskating. Evidently Spotheim prefers her own antiskate device, but alas (all together now), *I didn't have that device from George*—who *knew* I had a copy of his very useful record. Another two-minute job.

The manual contains a *long* and exhaustive examination of the close relationship of VTA and Effective Length: changing one alters the other. Spotheim points out that many contemporary cartridges attempt to incorporate a stylus rake angle (SRA) of 20°. But overall height (stylus tip to top plate) and cantilever compliance have never been standardized. And, taking a step or two back in the process, it's also widely known that the SRAs of various cutterheads used over the years were themselves different from each other.

What to do? Spotheim suggests you forget the notion that a cartridge parallel to the record surface is at or near the sweet spot. Instead, she would have you adjust the VTA while listening, and note relative positions on the VTA indicator's scale. When you've dialed in VTA, check the scale's reading. Let's say it shows 1.25° of change down from the reference horizontal plane—one long line below the zero point. As she spells out in the manual, raising or lowering the pivot for VTA displaces the stylus tip from its overhang setting. Then she throws in this little pocket rocket: "This is true for both pivoted tonearms and linear-tracking types, the only difference being that with straight-tracking arms the stylus tip is displaced from its claimed true tangency, rendering moot the tangency concept central to such designs." Ahem.

"Certain audible improvements achieved by adjusting VTA without a compensating adjustment of overhang are actually nothing more than the manipulation of the stylus tip in the vicinity of a more accurate overhang setting. To properly adjust VTA away from the reference point, it is necessary to also adjust overhang to compensate for the displacement of the stylus tip caused by raising or lowering the arm." Damn, she doesn't split hairs, does she? But making the required adjustment is

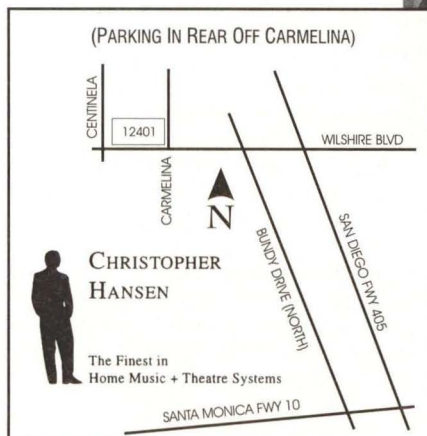
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child's play on La Luce. To adjust for 1.25° of VTA change, one moves the arm's pivot 0.5mm forward by turning the overhang micrometer one full turn counterclockwise, and so on.

There follows in the manual a discussion of the different thicknesses of vinyl from various labels and how best to compensate for them, and a treatise—far too detailed to go into here—on shifting between the Baerwald and Löfgren overhang values. Suffice it to say that I've never before seen the engineering bases of turntable setup explained so thoroughly. The math is clearly laid out, and the precise adjustments to compensate for the adjustments are explicated to the nines. Competence, elegance, and forethought drip from every plane of La Luce.

Installation completed, I stepped back and admired the handiwork. The 'table isn't huge, occupying a modest area of 12" by 16" and standing 11" in height on the supporting pucks—exclusive of the motor, of course. The sand-filled Big Rock 1 and Air Mass 2 add another 7" of height, bringing the whole thing up to a perfect level for easy access on top of the 32" PolyCrystal stand.

Sound

Ah, what a lovely turntable. Let's start with the French group Air's new release, *Moon Safari* (Source 8 44978 11). I've been enjoying the resurgence of French pop recently, listening to both CD and LP versions of this and their previous release, *Premier Symptomes* (Source 8 94287 66). I noticed immediately the utter sense of clarity, detail, and quietness of the presentation. Out of a beautifully natural, airy, silent, yet somehow organic soundstage, there burst forth a rainbow of tonal colors that captivated my mind and soul. Focus was *exemplary* and was, no doubt, responsible for a supremely high-order sense of body and palpability. The Utopias were gone from the room, disappearing so perfectly that I was never aware of their presence.

Dynamics were extraordinary, both in the micro and macro senses, much enhanced by the utter transparency that is La Luce's nature. Listening *deep* into the soundstage via the YBA 6 Chassis preamplifier—a transparency king if there ever was one—proved incredibly enjoyable and involving. Speed stability was very sure, enhancing a sense of real musicality. The entire bass range was stunning with power and impact, at all times fast, transparent, and pitch-differentiated to a fare-thee-well. The midrange, while not as innately bloomy as the Forsell, was as rich and harmonic

as any recording and cartridge might deliver.

The highs... In the treble range, I was most struck by the speed and *rise time* of the music. *Man*, it was fast. This quickness of initial transient fully explicated the upper midrange and above with not a trace of hash, brightness, or etching. As you'd imagine, female voices

**The entire bass range
was stunning
with power and impact,
at all times fast,
transparent, and
pitch-differentiated
to a fare-thee-well.**

were beautifully served by La Luce. Listening to more jazzy Trip-Hop, I spun Morcheeba's new album, *Big Calm* (Zen 107LP). While I was blown away by the totally awesome bass, I found myself captivated by the richness and detail in lead singer Skye Edwards' voice. There was a delicacy and a sense of micro-level, finely formed sound that had me leaning into the lyrics. It was fascinating, sexy, and seductive, like the soft velvet kiss of moist lips. The speed, timing, and utter detail seemed perfection itself, my inflamed imagination lingering for a moment in total amazement and admiration at side's end.

I don't think I've ever heard Ellington's "Moon Maiden," from *The Intimate Ellington* (Pablo 2310-787), sound quite so luscious, wonderful, and communicative. Every word was perfectly enunciated, each throaty little chuckle and murmur hung like magic in the air, and the celeste was glamorous, ringing with shimmer and tonal color. Switching to "Malletoba Spank" on Ellington's *Jazz Party* (Columbia CS 8127, original six-eye and Classic's reissue) had me rolling along, feet stompin', utterly absorbed by the high-energy beat. The huge, enveloping soundstage was captivating, every element precisely placed and illuminated, very layered and palpable, utterly detached from the Utopias. Depth was remarkable; I've never heard it so deep, layered, and palpable before.

Ravel's *Rapsodie Espagnole* (Mercury Living Presence/Classic SR90313) illustrated beautifully how well the Spotheim 'table hung on to separate musical lines, keeping them individually sorted

out and aloft—and how it perfectly integrated them into the size-of-life soundstage spread out before the listener. However, hearing with such clarity and transparency down into the noise floor also meant that any and all imperfections in the vinyl also came through: tape hiss, clicks'n'pops, and any other grunge was launched right into my face. I'd have to say that, overall, the Forsell is kinder and gentler to imperfectly recorded material.

But this in no way impeded my enjoyment of music via La Luce, even on equalized-to-death pop nightmares. A few random notes: "The sound of the Ravel is totally remarkable, perfectly delineated, the timpani powerful and meaningful, horns lovely and bur-nished—those bells are driving me *crazy*, they sound so beautiful."

When I optimized the Nagra PL-P's throughput by trimming the input and output potentiometers for the best signal/noise ratio, and cranked the volume for Kathleen (she likes it that way), the majestic sweep of the music was wholly available to me. Small, precisely repeatable rotations of the VTA micrometer snapped everything into stunning focus while rendering an even greater sense of palpability. Both the thunderous and the finely turned were all beautifully rendered by La Luce. Very satisfying.

I dusted off another Classic Records reissue, Gounoud's *Faust Suite* paired with Bizet's effervescent *Carmen Suite* (LSC-2449), and seem to have spent some time musing about sudden impact. Notes: "Vivid, that's another key word for La Luce. There's a world of difference between impact and *IMPACT*, and La Luce has the latter in spades. And it carries over into small-scale dynamics as well. *Faust* is truly impressive—walloping impact followed by sweet strings and mellow horns—and it all works. One experiences a strong acoustic sense from a large concert hall during live performances, and there's a kinship between that remembered experience and the presentation in our system at this moment."

La Luce, light and sound

As you've gathered, I love this turntable. Slowly adjusting the smoothly operating, highly polished micrometers while changing VTA and overhang was a sensualist's delight. Small, incremental improvements can be dialed in, rewarding the tweeker with utterly wonderful sound. But La Luce is not by nature a tweaky device; once set up, it proved a stable and easy-to-use platform for

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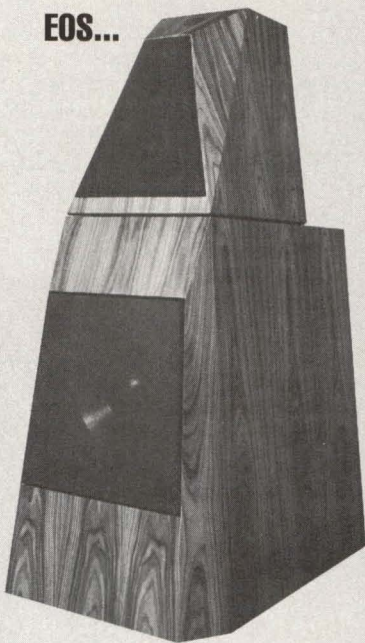
How does it stack up against the Forsell air-bearing wonder? It's like this: From the looks standpoint, La Luce makes the Forsell gear look a bit stodgy, and that might matter for some. No one who saw and heard La Luce while it was here managed to remain blasé or nonchalant—it *always* inspired awe and admiration. As a centerpiece that you and your significant other can be proud of, it has no equal in the audio world.

The sound of La Luce was more compelling, vivid, and dynamic than the Forsell Air Force One's—more like the Nagra PL-P. The Forsell remains more seductive and bloomy—more like the YBA 6 Chassis, to some extent. The Forsell is a hair less transparent and quick, if at the same time more richly harmonic. While La Luce's midrange could seduce and inveigle, it didn't do so to the same extent as the Forsell. But La Luce's sparkling, pellucid, articulate sound was as inviting in its own way as the Forsell's bloom and musicality. Perhaps the Forsell's bottom end speaks with slightly more authority than the La Luce's, but it's all a matter of taste and perspective.

Was there anything I *didn't* like about it? Nit-picker that I am, all I can come up with is that, in direct comparisons with the Forsell, it slightly emphasized clicks and pops.

Nevertheless, if you're an audiophile who can afford the best, give George Cardas a call. It's been my privilege to have La Luce in our system. It always gave everything of itself to honor the music. You can't ask for more than that. ☒

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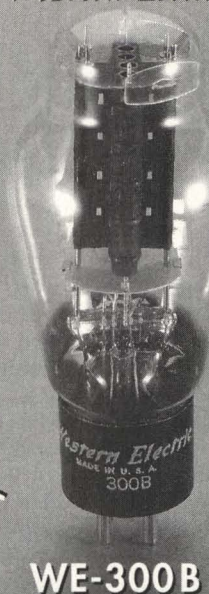
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Salamander Synergy System & Sound Organisation Two-Tier Rack

After a hard day at the keyboard, sometimes I like to relax by watching what my wife calls "house porn"—the renovation and redecorating shows that lurk on the lesser cable channels. I don't know why shows like *Homebase*, *Room by Room*, or *Dream Builders* so entrance me, except that as my mind wanders, I find myself fascinated by the strangest things. Such as: Where do these people keep their stuff? Their sofas, unlike mine, aren't piled with half-read *The New Mexicans*, old *New Yorkers*, and CD jewelboxes. Bookshelves are empty, except for the odd knickknack or two; mine are crammed with books, which are usually supporting other books. And stereos—don't these people ever listen to music? I don't think I've ever seen a speaker, stray wire, or electronic component (other than a TV) in any of those houses.

And that's just wrong. Not simply because I happen to be a slob, but because that type of show is selling the fantasy of the good life, and how can life be good without music? "But," I can hear interior decorators muttering, "audio equipment and—even worse—audio 'furniture' is not very aesthetically appealing. In fact, it can be downright ugly."

Horse hockey! Sure, there's some unattractive stuff out there, but there's a whole lot of audio gear being manufactured now that's downright gorgeous. Take a look at our cover—if you owned a Sonic Frontiers Iris transport, wouldn't you want to have it out where everyone could see it? Or glance at the Bow Wazoo elsewhere in this issue. *That's* a piece of gear you don't



Salamander Synergy System

need to throw a paper bag over to stay in the same room with. So, too, with audio furniture. You can still find some hideous examples, but at every HI-FI Show and CES there seems to be more and more serious support gear that is also bee-you-tee-ful.

Salamander Synergy

Take the Synergy System by Salamander Designs, for instance. It's a modular system just brimming with options, and so handsome it literally stopped me in my tracks at WCES '98. I was rushing to an appointment when I saw a display

Synergy System: Modular equipment racks with a full line of accessories.

Dimensions: Shelves: 23.25" W by 22–42" H by 19.75" D. Accessory drawer: 18.25" W by 6" H by 15.75" D.

Finishes: Wood: cherry, walnut, black. Aluminum: black anodized, clear satin anodized.

Prices: \$249–\$649, depending on size and finish. Accessories priced individually. Warranty: 5 years, repair

or replace. Approximate number of dealers: 200. **Manufacturer:** Salamander Designs Ltd., 30 Arbor Street, Hartford, CT 06106. Tel: (800) 535-5659. Fax: (860) 313-0526. Web: www.salamanderdesigns.com.

Sound Organisation Two-Tier Rack: welded steel frame supporting one adjustable, spiked shelf and one fixed, flanged shelf.

Dimensions: 19.5" W by 15.5" H by 16" D.

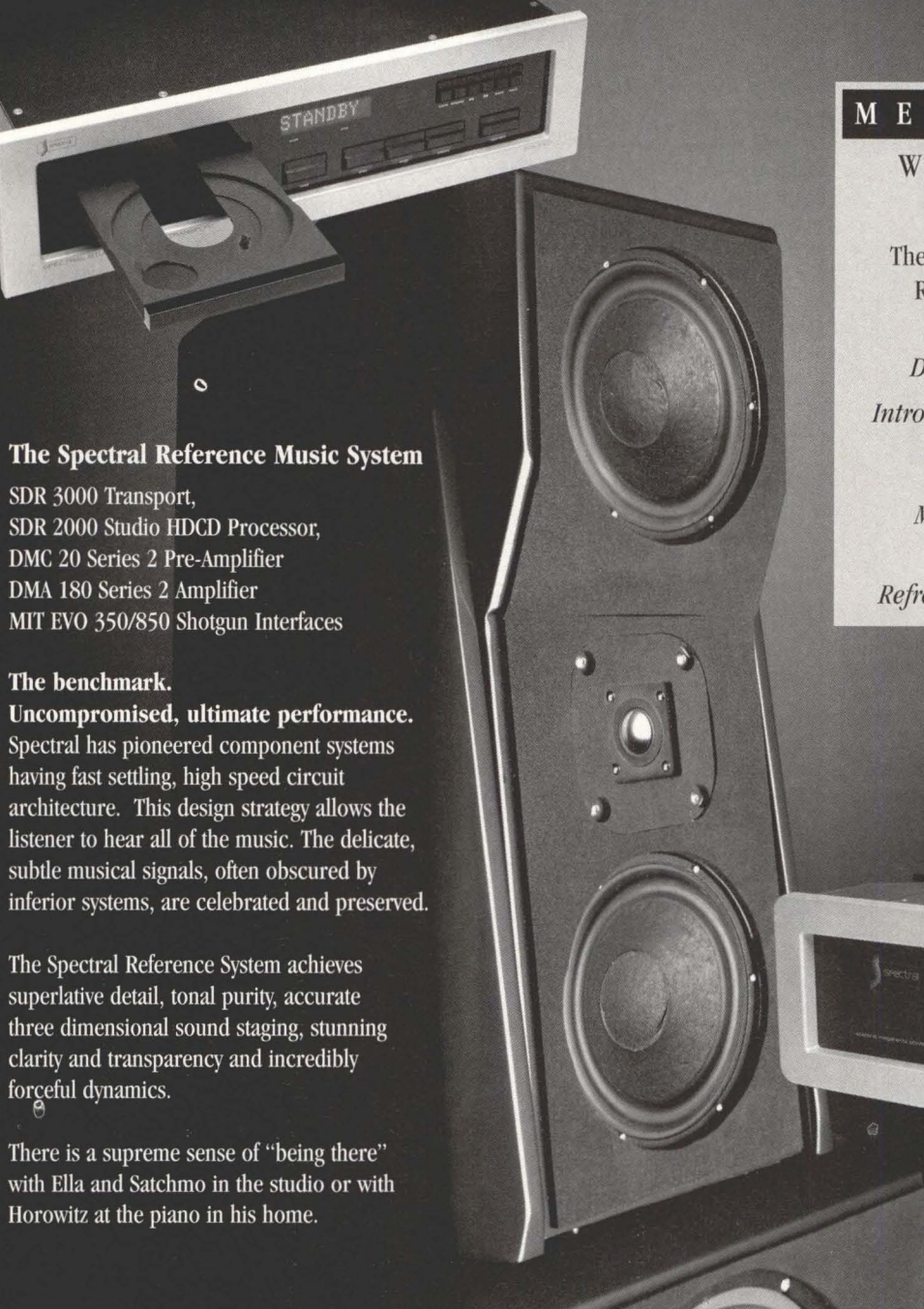
Finish: black/black.

Price: \$170. Approximate number of dealers: 79.

US Distributor: Sound Organisation, P.O. Box 2870, Carefree, AZ 85377. Tel: (602) 488-0028. Fax: (602) 488-0029. E-mail: steve@soundorg.com.

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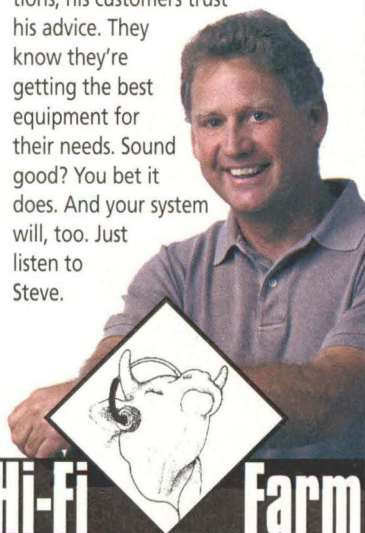
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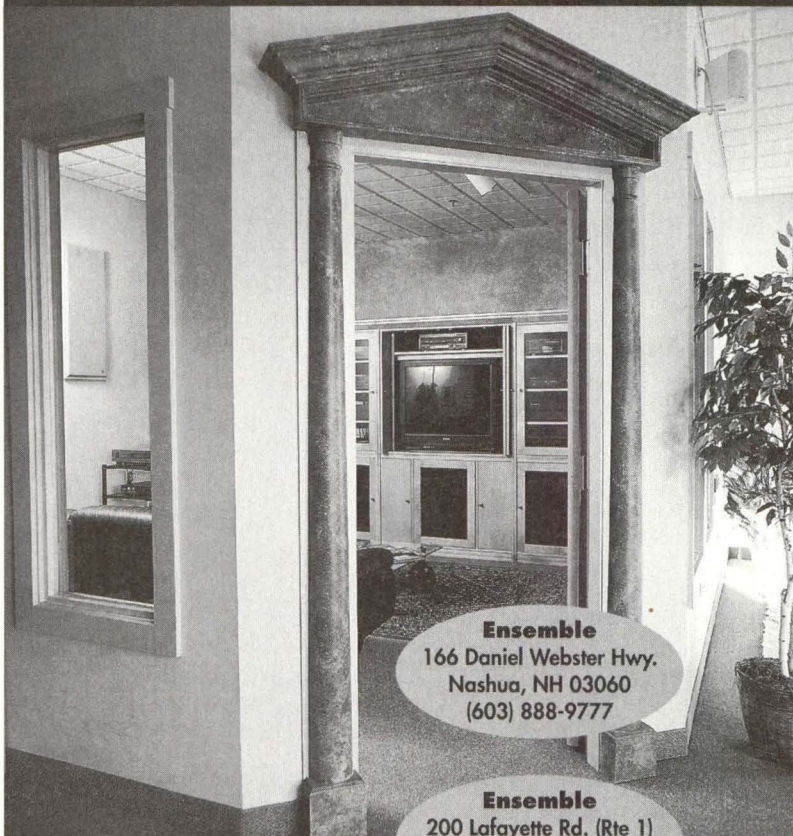
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a / v e n s e m b l e

of real furniture designed for serious audio gear. As well as sporting brushed-aluminum and rich wood finishes, this stuff also had luxe Ultra-Suede™ side panels, perforated metal doors, and Biedermeier-influenced curved metal legs. Only after I'd drooled over it a while, wondering who'd come up with such a combination of style and function, did I notice Sal Carrabba (the "Sal" in Salamander) grinning at my response. Reluctantly, I tore myself away to my appointment, promising Sal I'd return to examine the Synergy line at my leisure.

Synergy's versatility stems primarily from the four posts that support the top and from which the shelves are suspended. At first glance they seem to be rectangular aluminum bar stock, but they're really an ingenious extrusion that incorporates grooves into each face—the grooves are where all shelves, doors, and side panels attach, while the top and bottom shelves screw into the threaded of the extruded posts. Like most great ideas, it sounds complex but is quite simple in execution.

Salamander's Archetype stands (reviewed in Vol.20 No.9) utilize threaded rods and large nuts to clamp the shelves—but even when you use great

force to tighten the nuts to the shelves, the structure tends to sway. The Synergy stands, however, are as rigid as a rock, because of the way that their top and bottom plates fasten to the support posts. But don't be in too great a hurry to assemble the unit, or you'll find yourself taking it apart again to install the doors or other extras.

You have to plan for your options very carefully. For one thing, Salamander has done a great job of figuring out what accessories to offer. You can have an open rack, with the equipment visible and accessible from all sides, or you can add side and rear panels of perforated metal, wood, or even Ultra-Suede. You want doors? You can have perforated steel or frosted glass framed in wood—full height, three-quarters height, or half height. There are add-on drawers that can hold 100 CDs. Shelves can rest on spikes or rubber nubbins. You can buy double-width units (perfect for supporting widescreen TVs), or you can stack several posts together for really tall stands. You want wheels? They got 'em. Or maybe you'd prefer gracefully curving metal feet that lift the whole structure off the floor. Boy, do you have choices.

You can choose the height of the rack,

Associated Equipment

LP playback: Rega Planar 2 turntable, Rega Bias and Sumiko Blue Point Special phono cartridges.

CD players: ArCam Alpha 9, Audio Research CD2.

Integrated amplifiers: Creek 4330R, Rega Brio.

Loudspeakers: B&W DM-302, B&W Silver Signature, KEF RDM-2, Polk RT-5, Paradigm Studio 20.

Cables: Siltech and WireWorld Gold Eclipse III interconnects and loudspeaker cables.

Accessories: CinePro PowerPro 20 AC line conditioner.

Sound treatment: ASC Tube Traps, Studio Traps, Bass Traps; RPG Abffusors; philaethistic feline.

— Wes Phillips

for instance. Synergy stands are available in 22", 32", and 42" heights. You can also add shelves to fit your needs. (The 22" model comes stock with one shelf in addition to its top and bottom plates, the 32" with three, and the 42" with four.)

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And, of course, you can buy a configuration that suits your system now and add to it as your inventory changes.

Even after you've made your choices, you have to be alert about the order in which you assemble the unit. I screwed on the big plastic leveler feet (suitable for shiny wood or ceramic tile floors!), clamped the oversized cherry bottom plate firmly onto the posts, installed and carefully leveled each shelf, and really grunted down the oversized cherry top plate — then had to take off the top plate and uninstall the shelves to install the door.

So I cussed a lot. Why was all that necessary? Well, it's a groove thang. You have to clamp each item into the groove on the post by sliding a special fastener down the groove from the top of the unit. Then, by tightening the screw, you connect the hardware firmly to the structure. My order *should* have been: feet, bottom plate, hinge, shelf, hinge, shelf, top plate. This is a minor quibble that could be leveled at just about any product that's shipped knocked-down. It's hard to write fool-proof instructions; some fools, such as I, never read 'em anyway.¹

Once assembled, though, the Synergy stand was undeniably handsome, with its cherry top and bottom plates, black shelves, media drawer, black perforated-metal side panels, plain black back (easily removed for wiring changes, thank yew very much), and nifty little half-door in cherry-trimmed, perforated black metal.

Of course, looks aren't everything in the world of audio. The big question is, how'd it sound? I don't pretend to hear a difference *every* time I put a component on top of something else, but some supports do sound better than others. When I was an audio salesman, I used to amaze customers by playing them a CD player sitting on top of a heavy piece of wood furniture filled with LPs, and then playing the same CDP as it sat atop a light but rigid audio rack. People would stop telling me how there couldn't possibly be a difference and say, "I *heard* that!" When I asked them to describe what they'd heard, most said that the CD player sounded more "blurred" on the heavy furniture, and cleaner, more detailed on the audio stand. That's what I heard, too.

With the Synergy stand, I could get that sense of clarity and detail if I used the internal shelves — the ones resting on spikes or rubber pads. The top plate, connected as it is to the rest of the stand's mass, tended to add a very slight



Sound Organisation Two-Tier Rack

degree of haze if source components, such as CD players or turntables, stood directly upon it. Was this so noticeable that I was able to stride into the room, listen briefly, and declare whether or not the source unit was resting on one shelf or another? I think not. But the

**Sound Organisation's
Two-Tier Rack is
as basic as can be:
welded metal tubing,
square in cross-section,
with spiked feet and light,
wooden shelves.**

difference when I compared the sounds of a CD player on an inner shelf and on the top plate was obvious enough that I wouldn't just set a player on top without misgivings. Better to buy a stand with sufficient shelves for your needs and keep the top clear for knickknacks — and maybe I'll see *your* room on TV some evening.

I really like Salamander's new Synergy line. It's well thought-out for audiophiles, and handsome enough for furniture snobs. The base prices are quite reasonable, as quality furniture goes, although the price climbs steeply as you add all the extras. Even so, these racks should last a lifetime, so you'll get a lot of performance for your investment. I recommend them to anyone looking

for a sensible solution to audio clutter.

Sound Organisation Two-Tier Rack

There's been a lot of innovation in audio furniture over the years, but Sound Organisation's products have lasted because the company got it right the first time. SO's Two-Tier table may have been the first piece of furniture designed to make components sound better — or at least it was the first *I* ever came across.

The rack is as basic as can be: welded metal tubing, square in cross-section, with spiked feet and light, wooden shelves. The tubing can be filled with sand or shot, and the top shelf has threaded spikes so it can be precisely leveled. The bottom shelf rests on pointed flanges welded to the stand. That's it.

But it gets out of the way of the equipment resting on it as completely as anything I've ever used. I mentioned earlier that I used to do a stand comparison back in my retail days — the SO stand was what I used to show how other furniture colored the sound. I recently purchased an SO Two-Tier for my second turntable and discovered that it can still extract that last little smidge of performance from a good source.

And, while it may not be the fashion plate that the Synergy rack is, its no-nonsense black-on-black, form-follows-function styling has a sort of butch elegance.

Since we audiophiles are so easily impressed by the latest technology, I just thought I should mention that the SO table still delivers the goods. And at \$170, it's a bargain. ☒

1. Since I wrote this, Salamander has updated its instructions, especially for accessories.

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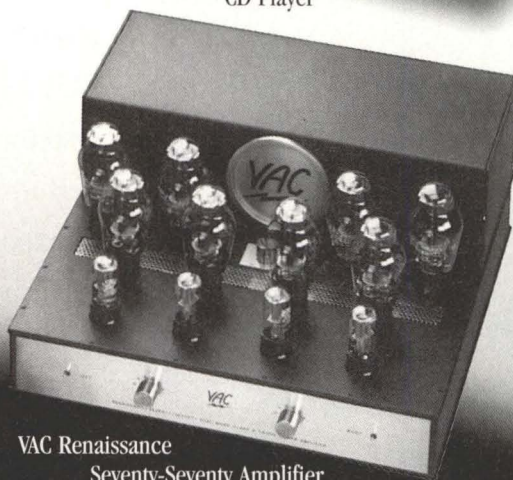
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Mr. Chris West, *Technical Director*

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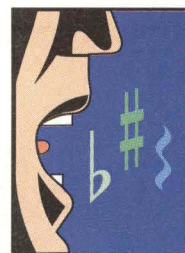
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Women have been present at the birth of every popular music genre—Bessie Smith, the Carter Sisters, Memphis Minnie, and Ma Rainey are a few of my favorite pioneers—but the prominence of females in popular music has been steadily rising. While it's true that artists like Patsy Cline, Diana Ross and the Supremes, and Janis Joplin were big stars in their day, it's only been recently that two crucial landmarks concerning women in music have been passed.

First, there are now just as many women as men playing music professionally. Second, in many cases women have become the leaders in their respective musical genres. With very few exceptions (jazz still lags behind, although that's changing too), women are now everywhere in music that men are, and they're on a roll—not because they're a novelty, but because they have the talent, guts, and, ultimately, something compelling to say.

This year a majority of the best records have come from women. When *SPIN* magazine proclaimed (in July!) that Lucinda Williams' new disc *Car Wheels on a Gravel Road* (see this month's "Record Reviews") was "The Best Record of the Year," I have to say I agreed.

Of course, having more women in music means that the percentage of clunkers by women also rises. This year's Lillith tour was a snoozer, except for the New Mexico date, which was the kind of cynical exercise that proves women have also become adept at the dark sides of the music business, which in this case means blind greed. And when it comes to lullabies, nothing sends me to Dreamy Town quicker than those twin pillars of emotional and intellectual rigor mortis, Natalie Merchant and Tori Amos.

Having now clearly stated my beliefs concerning women in music (an earlier draft of this column sent *Stereophile* copy editor Richard Lehnert into a righteous fit of PC fury), I will say that what set me to thinking about this column was that I had only one full record review centered on the work of a woman this month, and there were other equally deserving discs by female artists getting short shrift. That and the arrival of Razor & Tie's

new two-disc set, *The Rolling Stone Women in Rock*, whose liner-note essays—all written by women—extolled "feminine rock autonomy," "singer-songwriter sisters doing it for themselves," and how it's now "thankfully fashionable to acknowledge women's experience as unique."

For me, one of the most intriguing artists out there today is Gillian Welch. A banjo player and singer who co-writes all her own material with songwriter David Rawlings, Welch works in an acoustic, old-timey, neo-bluegrass universe that, though heavy with mournful tones and gothic imagery, can also shimmer with modern poplike sensibilities.

After Emmylou Harris recorded Welch's "Orphan Girl" on *Wrecking Ball*, the melancholy Welch was signed to Almo Sounds and released her universally acclaimed debut *Revival*. On her second album, *Hell Among the Yearlings* (Almo Sounds AMSD-80021), Welch, in songs lasting three minutes or less, quietly mixes tradition ("Miner's Refrain") with distinctly '90s numbers ("My Morphine"). She also gives rockabilly a whirl, on "Honey Now," the only tune with electric instruments. But it's the fragile, tuneful laments like "I'm Not Afraid to Die" and "Whiskey Girl" that have won Welch her loyal following. Perhaps an emotional shade lighter than her forlorn-but-gorgeous debut, *Hell Among the Yearlings* is a crème brûlée of sadness: too sad to gorge on, but too exquisite to ignore.

On the rock side, in 1993, when Liz Phair's debut *Exile in Guyville* was released—the title reputedly comes from the fact that the record is her "answer" to the Stones' *Exile on Main Street*—the entire women-in-rock equation changed forever. Set in ingeniously stark arrangements, her songs and lyrics portrayed a forest of archetypally '90s rock contradictions: victimized but also victimizing; a bully who's easily cowed; a brash, iconoclastic sexual predator who's also racked with needs and uncertainties. Laced with one fa-fa-fa-four-letter word in particular, this disc staked out new territory for women rockers everywhere—you could out-guy the guys and still bring a female

point of view to the table.

After taking time off to get married and have a son, Phair returned with *Whitechocolatespaceegg* (Matador/Capitol CDP 8 53554 2), a disc that turns the prism to yet another angle. While the arrangements here are fuller and the production more elaborate than ever before, the biggest change is that several songs, including "Baby Got Going," are now written from a man's perspective. Otherwise, in place of the snarly punk (who couldn't last forever), there is now a more mature, introspective mom who thanks "God" in the liner notes, seeks the advice of a co-producer like Scott Litt (R.E.M.), and even gets a guest turn out of Buck, Berry, and Mills (three-fourths of R.E.M.). While she rocks out on occasion ("Only Son"), and falls into familiar Phair patterns (the lope-along "Johnny Feelgood"), tunes like "Go On Ahead," where she speaks of the pressures that babies bring ("... one night is lovely, the next is brutal") open a new chapter in the Phair saga.

Here's a handful of other new and noteworthy releases by female artists:

Treasures Left Behind: Remembering Kate Wolf (Red House RHR CD 114). An all-star tribute to the late folk singer/songwriter. The guest list includes, among others, Dave Alvin, Nanci Griffith, John Gorka, Lucinda Williams, Emmylou Harris, and Peter Rowan.

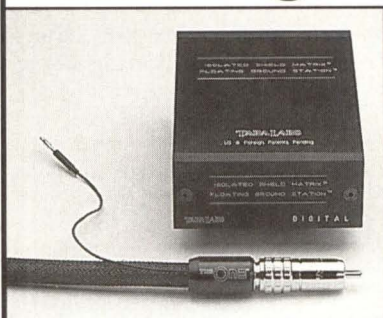
Etta James: Life, Love & the Blues (Private Music 82162-2). Having outlived most of the great bluesmen, this inimitable blueswoman can still bump'n'grind and, yes, howl as well as ever. Sample song title: "I Want To Ta Ta You Baby." 'Nuff said.

Neko Case & Her Boyfriends: The Virginian (Bloodshot BS 028). A pint-sized dynamo who's one of alt-country's junior-varsity up-and-comers, Neko Case can sing and write country-rock tunes that, given a bit more seasoning, are going to get noticed.

Kim Lenz & Her Jaguars (Hightone HMG3003). Remember rockabilly high priestess Wanda Jackson? Well, she's back—but in a sassier version called Kim Lenz. Bent on a Jackson-like sound, the red-haired Lenz is new to the rockabilly game but learning fast. ■

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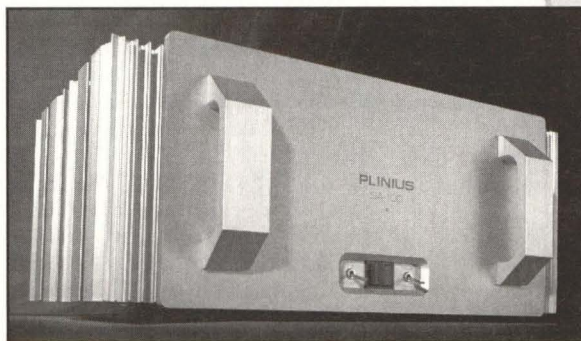
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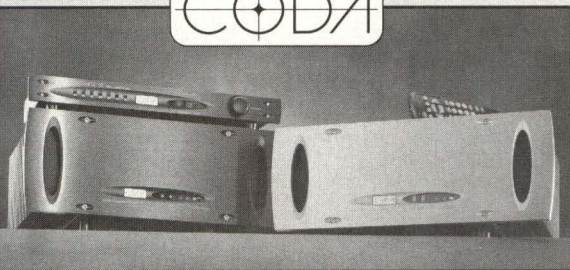
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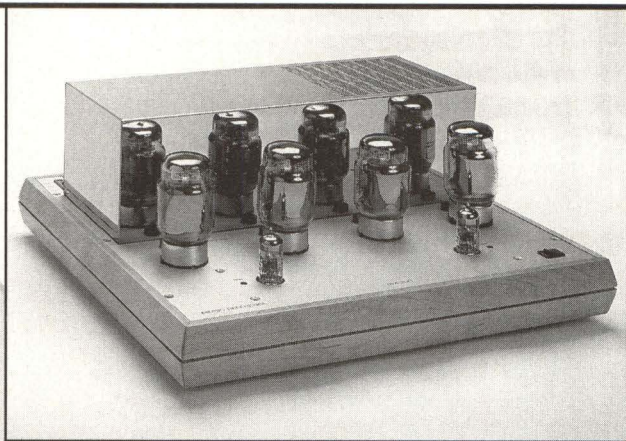
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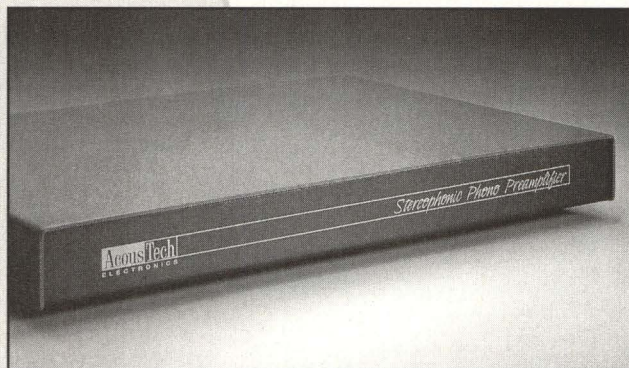
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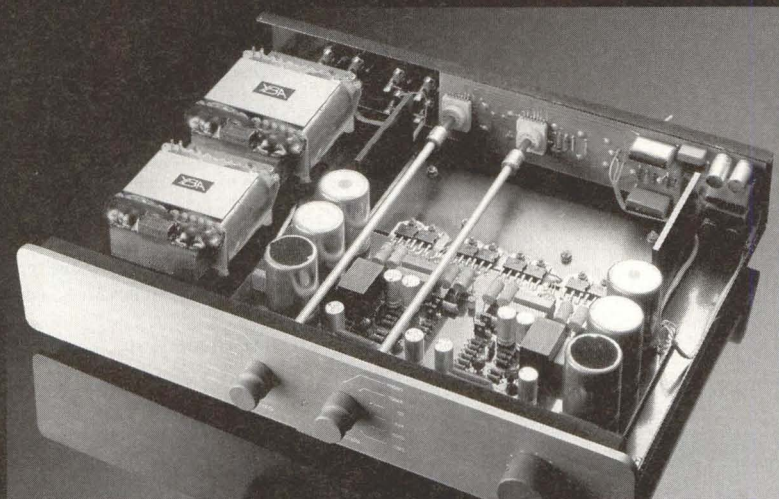


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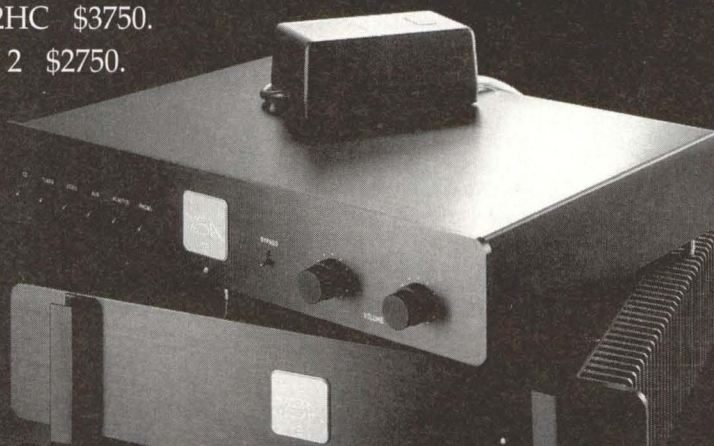
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Charles Mingus

While colossus bassist/composer/bandleader Charles Mingus was recognized in jazz circles during his lifetime as one of that music's most talented contributors, it's only been recently that his brilliance as an indomitable creative force has begun to be fully realized by fans and players alike.

Today, several vital working bands from coast to coast dip into his compositional well for their repertoires, jazz festivals—including this year's San Francisco Jazz Festival—stage tributes to his music, and the superb Mingus Big Band, conceived and piloted by his widow Sue Mingus, has been racking up recording and performance awards left and right. Add to that the impressive batch of Mingus reissues, including last year's five-star six-CD set, *Passions of a Man: The Complete Atlantic Recordings, 1956–1961*, and this year's indispensable three-CD package *The Complete Columbia 1959 Recordings*. Toss in the excellent feature-length film documentary, *Triumph of the Underdog*, recently released on video by Shanachie, and you've got Mingus in roses.

The contradictory volatile-erratic, sensitive-ecstatic Mingus was a prodigious composer and recording artist. During the '50s alone he helmed his own record company, Debut, recorded for major label Columbia and then rising-star imprint Atlantic, and even managed to deliver the goods for such small indies as Bethlehem, Savoy, and Candid. As a result, there's an enormous amount of recorded material covering the many facets of Mingus' musical vision: his hot-blooded affection for the blues, a fervid craving for gospel testifying, an interest in Mexican music, an ardent love of classical music from Debussy to Bartók, and a reverent passion for the entirety of the jazz tradition, beginning with Jelly Roll Morton and continuing through Duke Ellington's enduring swing and the bop one-two punch of Dizzy Gillespie and Charlie Parker.

That Mingus was able to integrate a legion of styles into an unclichéd, wholly original music is proof enough of his genius. But he was also an uncompromising general when it came to mar-

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A man and his strings: No one has defined the possibilities of the jazz bass more than Charles Mingus.

shaling and leading his crack troops, often demanding that his bandmates be filled with the same holy spirit that consumed him, be driven by the same fiery devotion he practiced. The result? A compelling music that probed the subterranean depths of anguish and soared into the stratospheric highlands of joy.

The following is by no means a complete review of the Mingus recording catalog, but is meant as a survey of the most available highlights of his career, along with a few more-difficult-to-obtain items. Those with unlimited time (and money) will find a number of Mingus obscurities, of varying quality levels, to pursue.

Boxed-set essentials

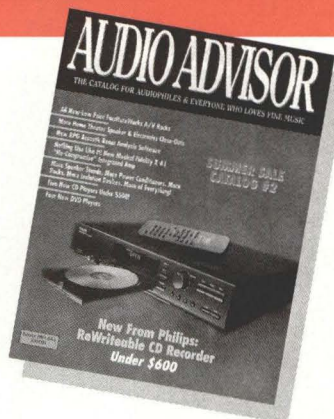
A good place to start building a Mingus library—and for many, this will be all the Mingus they'll ever need—are three readily available boxed sets that focus on important formative and innovative periods of Mingus' career. (A fourth box, *The Complete Candid Recordings*, issued by the superlative jazz

reissue label Mosaic, is out of print.)

The best place to start with Mingus as leader is by taking the plunge into the 12-CD Fantasy package of his early works, *The Complete Debut Recordings* (Debut 12-DCD-4402-2). It features an exhaustive overview (169 tracks) of Mingus leading his own bands, as well as playing sideman duties, with a wealth of talent, from a very young Miles Davis to Max Roach, with whom Mingus founded the label. (Debut lasted from 1952 to 1958.)

The sound is generally fair to poor, though not unreasonably so given the technology and label budgets at the time. But the recordings with Mingus at the helm prove valuable as they trace the bassist-composer's artistic growth. Case in point: the live 1955 set recorded at the Cafe Bohemia in New York City, where Mingus and his quintet unveiled such fine Mingus compositions as "Jump Monk," "Love Chant," and "Haitian Fight Song." Mingus also demonstrates his penchant for melding classical and jazz by working in allusions

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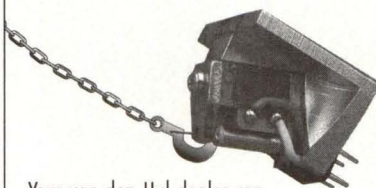
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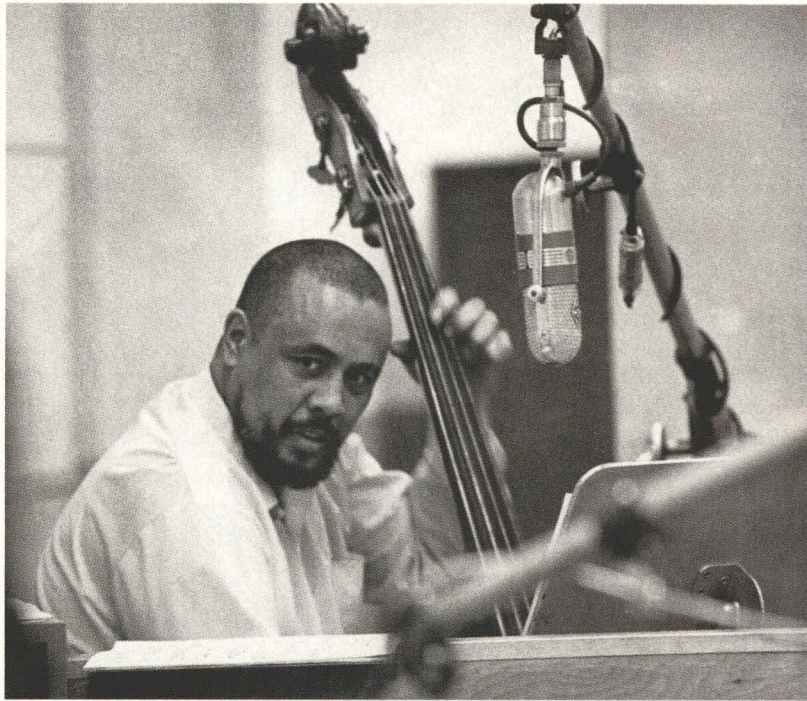
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A close-cropped Mingus in the studio, recording for Impulse! in 1963.

to Debussy's "Claire de Lune" and Rachmaninoff's Prelude in C# Minor during his take on the standard "All the Things You Are," retitled for the occasion as "All the Things You C#."

The Debut set's other selling point is the invigorating bebop summit recorded live at Massey Hall in Toronto in 1953. The lineup, with Mingus and Roach holding down the rhythm duties along with pianist Bud Powell, features a front line of bop fathers Dizzy Gillespie and Charlie Parker, playing their last exhilarating gig together. The chemistry is strong, the feeling loose, the delivery delightful. In addition to such classics as "Perdido," "Salt Peanuts," "Hot House," and "A Night in Tunisia," there's "All the Things You Are" (minus the C# twist).

To fully swing into the Mingus vortex, step into the 6-CD Atlantic sessions box, *Passions of a Man: The Complete Atlantic Recordings, 1956–1961* (Rhino/Atlantic R2 72871). This is music recorded from 1956 to 1961, when Mingus and his bands were delivering a torrential downpour of improvisational brilliance—whether they were playing down'n'gritty blues or expansive, multi-vignette compositions. This period proved to be the composer-bandleader-bassist's golden era, a pivotal time in the jazz giant's career when he experimented widely.

Breaking from the practice of composing fully notated works, Mingus set out to

teach his band how to capture the spontaneous spirit of the music. Sitting at the piano, Mingus spoon-fed the pieces, in all their complexities, to his band members, instructing them in their subtleties and buoyancy. What results is ensemble brilliance: Mingus keeps the pulse with his thumping bass, shepherding his crews—including Mingus band noteworthies trombonist Jimmy Knepper, alto saxists Shafi Hadi and Eric Dolphy, and drummer Dannie Richmond—into a rare intimacy with the music.

The fully annotated box is packed with what many consider to be Mingus' greatest hits, including the leadoff number "Pithecanthropus Erectus" (the leader's musical commentary on the ascent of man), a gripping yet beautifully swinging epic with whinnying horns, ecstatic shouts, and musical surprises around every corner. There's also the waltz-time parable "The Clown" (with improvised narration by radio personality Jean Shepherd and big-swing interludes), the melodic gem "Reincarnation of a Lovebird," the soulful, highly charged socio-political musical statement "Haitian Fight Song," and the lyrical beauty "Peggy's Blue Skylight," which remained active in Mingus' repertoire until shortly before he died.

The boxed set also includes in their entirety two of Mingus' single album masterworks: the gospel-drenched *Blues & Roots*, recorded in 1959 (it features the rousing "E's Flat, Ah's Flat Too"), and

the opus of improvisational ensemble interplay *Mingus at Antibes* (all hail Dolphy, especially when he rips into "Wednesday Night Prayer Meeting"), recorded in 1960 at the Antibes Jazz Festival but unreleased until 1976. The bonus disc is a lengthy, entertaining interview with Mingus and Atlantic label owner/producer Nesuhi Ertegun.

My only criticism of the set: the compilation producers' decision to drop the order of songs as they appeared on the original albums in favor of presenting a chronological perspective for, according to Rhino's press release, "maximum appreciation of Mingus' evolution." First-time listeners won't bat an eyelash; long-time Mingus fans used to the sequencing of old will scream bloody murder.

While the 6-CD Rhino/Atlantic box proves to be a time-consuming listen (it requires nearly a full workday), the new (1998) 20-bit-remastered 3-CD box, *The Complete 1959 Recordings* (Columbia/Legacy C3K 65145), is much more manageable and equally compelling. The guts of this package are the classic discs *Mingus Ah Um* and *Mingus Dynasty*, both presented on CD in their entirety for the first time, with all previously truncated versions of tunes re-extended to their full lengths. For listening sleuths intrigued by improvisational differences, the third CD features alternate takes from both discs. It's a nice touch, but unless you're a Mingus disciple, odds are you won't be taking disc three for a spin too often.

Mingus Ah Um finds Mingus at his most brilliant, both as player and composer. He integrates it all here—blues, r&b, gospel, classical, all shades of jazz—inventively and effortlessly. He shows his full colors as a singular composer who's unafraid to both take chances and pay homage. He delivers his incendiary "Fables of Faubus" with a blues lode, and brings the house down with the rollicking, church-shouting "Better Git It In Your Soul." He also pays tribute to his jazz heroes, including Lester Young in the timeless melody "Good-bye Pork Pie Hat" and Charlie Parker in "Bird Calls," highlighted by the avianlike free-sax flights of John Handy and Shafi Hadi. *Mingus Dynasty* follows suit, offering more of the same, including another hand-clapping hallelujah tune, "Slop," the horn-erupting blast "Gunslinging Bird," and a nod to Duke with a gorgeous take on "Mood Indigo." Even though they were recorded nearly 40 years ago, these two albums sound musically fresh today.



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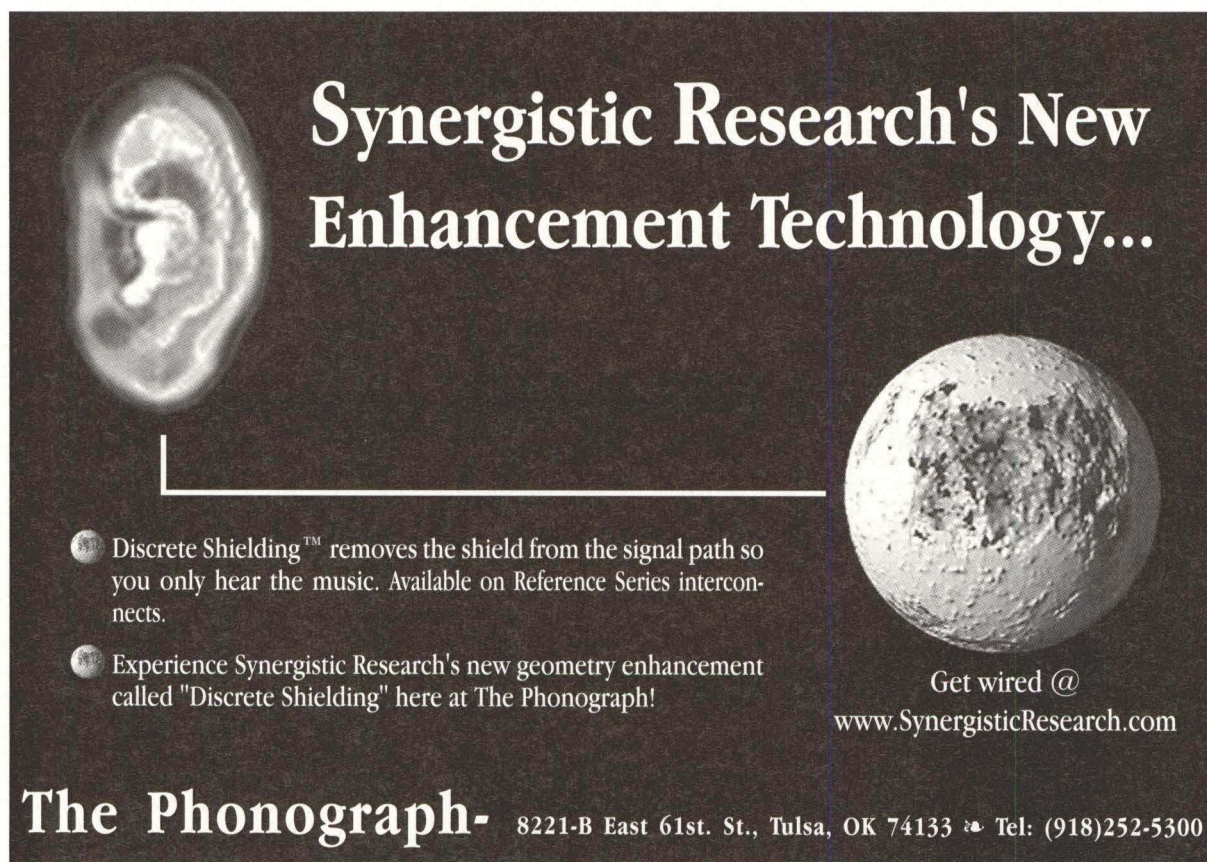
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Single-disc classics and must-haves

While Mingus was turning heads with his Atlantic and Columbia outings in the '50s, he was also recording prolifically for other labels, and began to fully come into his own in the mid to late '50s. He later remarked of that time, "I finally decided to be myself; it's so much easier that way." The multifaceted musician, charging full speed ahead into establishing his identity as a jazz composer and bandleader, in 1957 recorded two very different one-off studio albums: *East Coasting* (Bethlehem 30022) and *Tijuana Moods* (RCA Victor 68591-2; first released in 1962, then reissued in 1976 as *New Tijuana Moods*, with alternate takes).

East Coasting develops along bluesy, relaxed swing lines, rarely jolting with surprising Mingus moments. There's a straight melodic reading of the standard "Memories of You," the bop-driven, horn-swirled swinging title tune, and "West Coast Ghost," which deliciously shifts tempo and mood from low-lights,

late-night romancing to thumping swing. A coolly majestic must-have CD.

Written during a particularly down period in Mingus' life (he was newly divorced), *New Tijuana Moods*, featuring trumpeter Clarence Shaw, is a musical portrayal of the leader's drunken holiday in Tijuana. The set list ranges from the shining swing of "Dizzy Moods" (a reshaping of Diz's "Woody'n'You") and a pensive take on "Flamenco" (from the Duke Ellington songbook) to fully developed originals, including the roiling and excited "Ysabel's Table Dance" and the suitelike, anguished-to-celebratory "Los Mariachis."

After golden 1959, the next highlight year in Mingus' recording career was 1963, soon after he'd emerged from a short hiatus taken for mental health reasons. That year, he recorded a trio of excellent albums for Impulse!, and *The Black Saint and the Sinner Lady* (Impulse! IMPD-174) is perhaps his most expressive. It's a masterpiece, as much a

poignant social statement on racism as a stunning triumph in working with extended compositional forms. Mingus said he wrote the music for both dancing and listening. Leading an 11-member ensemble, he yearns for freedom, using the swells of impassioned music as his voice. *Black Saint* is full of color, textures, repeating melodic motifs, accelerating tempos, and churning instrumental excursions. The album has a brooding beauty.

In many ways, *Mingus Mingus Mingus Mingus Mingus* (aka *Mingus 5*, Impulse! IMPD-170) is a more mature and confident version of *Mingus Ah Um*. The leader trains his group to swing fiercely, insisting on a harder drive to propel the music. The triple-sax assault of Dolphy on alto, Booker Ervin on tenor, and Jerome Richardson on baritone makes the date. Highlights include updates on "Better Git It In Your Soul," with a more spirited, faster pace and a New Orleans-fueled coda, and a "Good-bye Pork Pie Hat" (retitled "Theme for Lester Young") that's indelibly lyrical and lovingly tender.

For Mingus' next studio recording triumphs, fast-forward to 1972, after several years of personal troubles that resulted in his retreat from the music scene. He forged his comeback with the orchestral *Let My Children Hear Music* (Columbia/Legacy CK 48910). Once again, the composer-bandleader-bassist returned to inspired form. Shortly before he died (he succumbed to amyotrophic lateral sclerosis, or Lou Gehrig's disease, in 1979), Mingus looked back at this disc and deemed it his favorite. There are several classically oriented extended compositions (as mentioned in the liner notes, his attempts at "building new tall buildings"), the swirling "Hobo Ho," the turbulent "The I of Hurricane Sue," and a fresh waltz-time update on "The Clown" called "Don't Be Afraid, The Clown's Afraid Too," complete with full bluesy swing, tuba-anchored melodic motif, and circus sounds dubbed in. The only soft spot on the disc is the spoken-word number "The Chill of Death," which contains sophomoric poetry written by Mingus in 1939.

Two years later Mingus, his band (including saxists George Adams and Hamiet Bluiett), and guests (saxists John Handy, Rahsaan Roland Kirk, and Charles McPherson) headlined in New York. *Mingus at Carnegie Hall* (Rhino/Atlantic R2 72285) captures the second half of the concert, which consisted of two extended jams through Ellington works. Even



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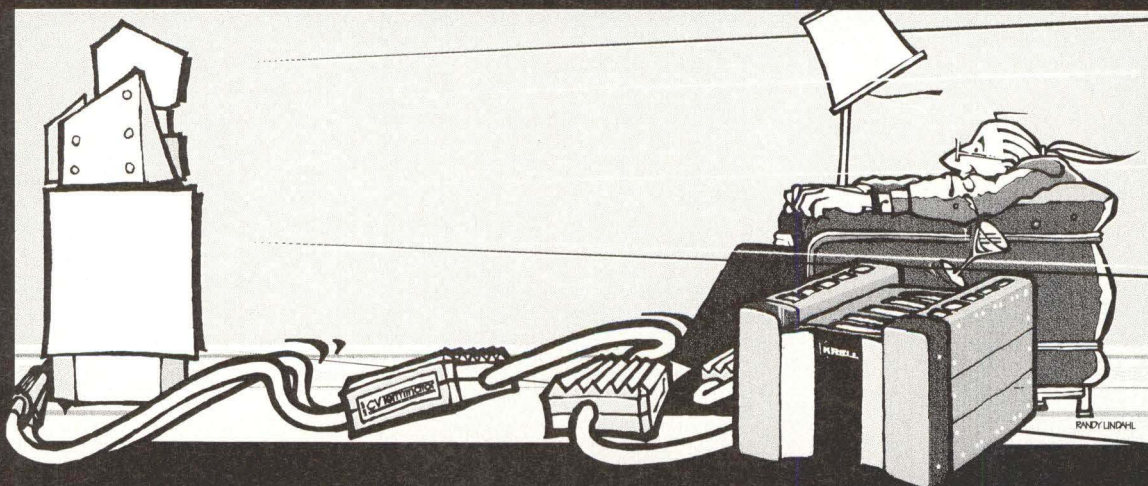
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though the sound isn't great (the miking was poorly executed), the music is nonstop invigorating. This is one huge sax feast—the incredible lineup of saxophonists blows chorus after chorus, each musician playing off the energy of the others, swinging “C Jam Blues” and “Perdido” into outer space.

In 1974 Mingus also recorded stunning companion albums, *Changes One* and *Changes Two* (Rhino/Atlantic R2 71403, R2 71404). They showcase the dynamic duo of dazzling pianist Don Pullen and shredding tenor saxophonist George Adams, who later formed their own killer quartet. Mingus' quintet also included Jazz Workshop newbie trumpeter Jack Walrath and his old standby drummer Dannie Richmond, who by this time was dishing out the rhythms with Mingus via telepathy. Working in the small-group setting, the jazz titan delivers two scintillating sets of distinctive music. There are the epic compositions (eg. “Orange Was the Color of Her Dress, Then Silk Blues”), gutbucket blues (the blistering “Devil Blues”), the bow to a musical hero (the lush, loving instrumental “Duke Ellington's Sound of Love” on *One*, the soothing vocal version on *Two*), and swinging protests (“Remember Rockefeller at Attica” and “Free Cell Block F, 'Tis Nazi U.S.A.”). These discs are a treat. Look for Rhino to someday package them together in a box with alternate tracks.

Off-the-beaten-path jewels

Mingus recorded a lot of music in 1957. One disc that appears to have been recorded then (the liner notes don't nail down a date) is the small, rarely cited *A Modern Jazz Symposium of Music and Poetry with Charles Mingus* (Bethlehem 20-40092). The first track, “Scenes in the City,” is a jazz story-narration in which Mingus and his sextet are given lots of free rhythmic rein to stretch out improvisationally. After that one spoken-word number, Mingus and crew deliver “Duke's Choice” with elegance and grace, and “N.Y. Sketchbook” with tempo-shifting glee, and have a blast sailing through the previously unreleased “Bounce.” (Check out the vocal gusts of enthusiasm just off mike.)

In the shadow of the two 1963 Impulse! masterpieces of *Black Saint and Sinner* and *Mingus 5* is the lesser-known *Mingus Plays Piano* (Impulse! IMPD-217), a moving solo recording on the instrument that he



The bassist as a young artist: Mingus in the '50s.

used primarily for composing. Mingus was no Oscar Peterson, but it's still a delight listening to the bass virtuoso performing these spontaneous compositions and improvisations. My favorite is his emotive version of “Orange Was the Color of Her Dress, Then Silk Blues.”

Another off-the-beaten-path disc worth securing is *Revenge: The Legendary Paris Concert* (Revenge/32 Records 32002), a 2-CD set recorded at the Salle Wagram in 1964 that was long available only as an unauthorized bootleg. Mingus' widow Sue Mingus remastered an illegal copy of the concert and released it in 1996 on her own Revenge label, distributed by 32 Records. The concert captures Mingus playing some of his most compelling works with one of his strongest bands—including Dolphy, who had already decided to leave the Mingus band and tragically died a few months after this gig. Given the source, the sonics are decent (read: not pristine). The highlights of these lengthy jams include “Meditations on Integration” (with Dolphy wafting pensive flute lines), an extended take on “Fables of Faubus” (complete with the lyrics Columbia deemed too provocative to record on *Mingus Ah Um*), and the melancholia-soaked swing through “So Long Eric.” As previously men-

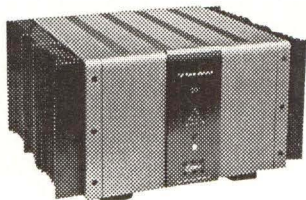
tioned, this is only a small selection of the best and most easily available Mingus rarities.

Discs to avoid

Some Mingus albums are at best insignificant, at worst embarrassing. One to steer clear of is *Weary Blues* (Verve 841 660-2), a jazz-poetry disc with Langston Hughes reading. Recorded in 1958 and produced by noted jazz critic Leonard Feather, the album is a tad deceptive as to Mingus' involvement, though he gets second billing beneath Hughes. Mingus does not have a starring role here. Working with composed and improvised music to support Hughes, Mingus and his band (featuring pianist Horace Parlan, trombonist Knepper, and saxist Hadi) actually appear on less than half of the album. Mingus wiggles out a bowed bass solo, slaps out a bluesy pizzicato run, swings the band into shape, and ends the show with a jaunt through “Jump Monk.” The rest of the disc is played by a Feather-directed band. It's a CD to avoid unless you're a Hughes fan or a Mingus completist.

Though 1959 was a very good year for Mingus, he turned in a subpar performance on *Mingus Revisited* (Emarcy 826 496). That disc, originally released as *Pre Bird*, finds Mingus the innovator harking back to his past. For the most part it's a mistake, again put on the musical map by Feather. Mingus (with Dolphy in tow) clips through Ellington tunes and floats through on his own “Mingus Fingus No.2,” which is full of brassy exclamations. But vocalist Lorraine Cousins on two tracks (including “Weird Nightmare”) doesn't cut the mustard, and the orchestral piece “Half Mast Inhibition,” written by the teenaged Mingus in 1940, sounds more like a sheaf of sketches than a fully developed concerto. Performed by a 22-piece orchestra conducted by Gunther Schuller, the composition fails to reach much of a boil, even though it makes for an intriguing study of how Mingus, even as a youngster, was thinking of ways to extend the form and duration of jazz compositions.

In 1972, Columbia recorded Mingus' first live appearance in New York in over a decade at Lincoln Center's Philharmonic (now Avery Fisher) Hall. Even though there's an abundance of exciting performances on *Charles Mingus and Friends in Concert* (Columbia/Legacy C2K 64975), the 2-CD set is not an



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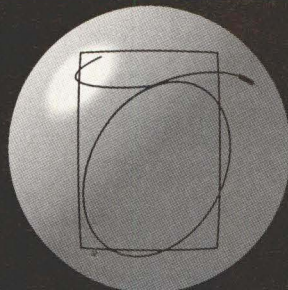
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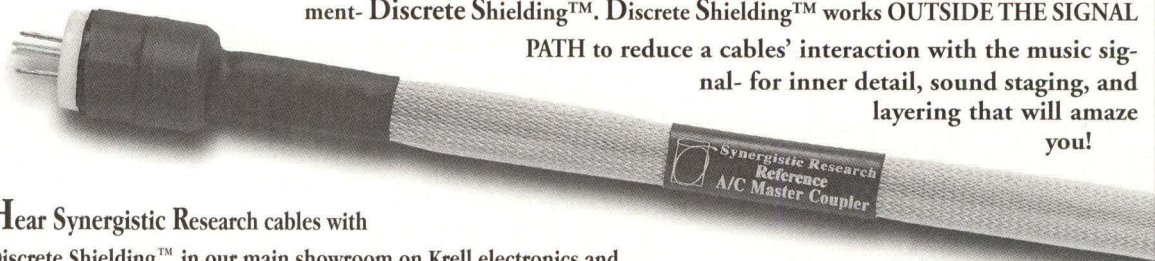
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essential collection overall. The tunes are often under-rehearsed (*ie*, "Us Is Two," in which orchestral confusion occurs halfway through despite some fierce swinging), the solos long-winded, and the energy at times sluggish.

Beware of another live disc, *Keystone Korner* (Jazz Door 1219), recorded in 1976 at the legendary San Francisco jazz club of the same name. This CD is as close as they come to a sloppy bootleg. Names are misspelled, notes are scant, the list of tunes doesn't match what's actually on the disc, and, unlike most of the live discs reviewed here, this one sounds as if it was recorded in the early '50s. The sonics are murky, the mix way out of balance, and there are occasional buzzy blasts of distortion from the PA system.

Mingus: The last hurrah

Mingus' final strong album, *Cumbia & Jazz Fusion* (Rhino/Atlantic R2 71785), was recorded in 1976 and 1977 and released only a year before the bassist's death. A couple of short Mingus piano takes on the traditional number "Wedding March/Slow Waltz" have been added to the package over the years, but the main reason for scooping up this disc is the 28-minute title track, a beautifully sprawling piece played to perfection by a 15-piece big band adept at negotiating Mingus' stylistic and rhythmic twists and turns. It's spiced and bubbling with South American percussion, and propelled by a wall of swinging—and, in stretches surging—horns, all undergirded by a mesmerizing and almost frightening bass motif. The track fairly brims with unpredictable musical tangents, including a bluesy "Short'nin' Bread" rap. It's a momentous work, brought together miraculously at a time when Mingus' health was beginning to deteriorate. It's not surprising that this composition also appears on the latest Mingus Big Band disc, *Que Viva Mingus* (Dreyfus FDM 36593-2), and is a featured tune in the ensemble's weekly Thursday gig at the Fez in Time Cafe in New York City.

Mingus remained a visionary, writing music up to his final days. When he was no longer able to play the piano, he developed new material by dictating melody lines into a tape recorder. He wrote in the original liner notes of *Let My Children Hear Music*: "I say, let my children have music. For God's sake, rid this society of some of the noise so that those who have ears will be able to use them someplace listening to good music."

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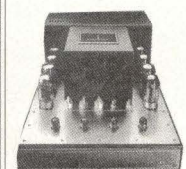
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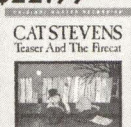


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Recording of the Month

ORCHESTRE NATIONAL DE BARBÈS

Orchestre National de Barbès

Larbi Dida, vocals; Youcef Boukella, vocals, bass; Aziz Sahmaqui, vocals, percussion; Fateh Benlala, vocals, mandolin; Fathilla Ghoggal, Olivier Louvel, guitar; Alain Debiossat, soprano sax; Toufik Mimouni, Jean Baptiste Ferr, keyboards; Ahmed Bensidhoune, bendir, darbouka; Kamel Tenfiche, vocals, percussion; Karim Ziad, karkabous; Michel Petry, drums

Tinder 42853192 (CD). 1998. Tajmaat, Djilali Aichioune, prods.; Luis Saldanha, Antoine Illouz, Delphine Presle, engs. AAD? TT: 78:33

Performance ★★★★★

Sonics ★★★★★

Already a sensation in Europe, the Orchestre National de Barbès' self-titled debut album has US world-music fans pricking up their ears to the unaccustomed beat of North Africa. In France, where the band is based, *rai* singer Khaled recently scored a number-one pop single, but in this country Arabic music is still a novelty, even to listeners familiar with salsa and Afro-pop. Critics here and abroad have lambasted the group for its pop-fusion impurity, but it's hard to quibble when your head starts to bob and your feet begin to twitch. This may not be the most profound example of Arabic music around, but it's surely the catchiest.

In Barbès, a Parisian neighborhood heavily populated by immigrants from the Maghreb region of Northwest Africa, Algerian *rai* mingles with Moroccan *chaabi* and Gnawa music, Sufi devotional songs, sub-Saharan Afro-pop, and all manner of Western sounds, from dance-hall reggae to heavy metal. There bassist Youcef Boukella, who'd formerly led a rock band in Algeria, met *rai* singer Larbi Dida, who shared his expansive vision of Arabic pop. The two soon found themselves at the center of a roving Pan-Arabic jam session that gradually coalesced into ONB's current 13-member lineup, which includes a number of non-Arab French musicians.

The performances on *Orchestre National de Barbès* (originally released by Virgin France) are so tight and clean, you'd never guess the album was recorded live if not for the audience cheers between tracks. Electric guitars, bass, keyboards, and drum set provide a rock feel, while a soprano sax adds smooth-jazz colors. The synth washes grow cloying at times, but the keyboards also simulate Arabian wind instruments like the *ghaita* and *ney*, while guitars and mandolin mimic such stringed instruments as the oud and the *rabab*. Much of the band's ethnic flavor—as well as its driving, exotically syncopated pulse—is supplied by traditional percussion like the *darbouka*, the *bendir*, and the *karkabous*. But the main focus is on the ululant Arabic vocals, with several singers alternating

TINDER RECORDS



lead parts or joining in unison.

Heavy hooks and varied grooves sustain interest over the album's nearly 80-minute length. Alain Debiossat, on soprano sax, snakes in like a Middle Eastern Kenny G. over what sounds like a West African *balaphon* to kick off the opening "Mimouna." "Hadga" chugs along in reggae riddim, and "Savon" rides a galloping funk beat. "Salam" dovetails a dance-hall rap with a glorious refrain of "Salaam aleikum," while "Labou" floats on the chiming, twining guitar lines of Congolese *soukous*. Other tracks, such as "Sawye," "Zawiya," "Ma Ychali," and "Chalini," are more Arabic in character, each reflecting a different local Maghreb tradition, but all are spiced with rock, pop, and jazz ingredients, and all are irresistibly buoyant and tuneful.

The lyrics, translated in the liner notes, speak of love and spiritual brotherhood, avoiding the sex and alcohol themes that have turned *rai* singers into targets for fundamentalist assassins. There are references, however, to the vicious civil war that has devastated Algeria and stranded many emigrants in France; for example, "The cold wind of exile / disperses and scatters us... / Will we see again one day / a peaceful Algeria?" (from "Ma Ychali"). But even the most poignant lamentations are set to infectious party grooves, and the album's overall mood is one of joyous celebration. The Arabic world has long been separated from the West by a barrier of mutual incomprehension and distrust, but Orchestre National de Barbès' genre-bending intensity lifts the veil of Oriental mystery to reveal our common musical humanity. As a line from "Sawye" has it, "We are all alike / In front of the Almighty."

—Larry Birnbaum

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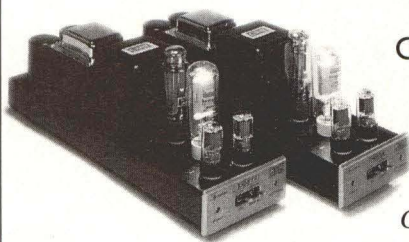
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C.P.E. BACH

Four Symphonies, Organ Concerto

Symphonies in F (Wq 183/3) and E-flat (Wq 183/2); String Symphonies in B-flat (Wq 182/2) and E (Wq 182/6); Organ Concerto in G
Christine Schornsheim, organ; Akademie für Alte Musik Berlin
Harmonia Mundi HMC 901622 (CD). 1997. Eberhard Geiger, prod.; Michael Glaser, eng. DDD. TT: 64:54
Performance ★★★★★
Sonics ★★★★★

From the first notes of the Grand Symphonie in F, a moment of confusion would be forgivable, even for an experienced listener: Is this Mozart? Haydn? Beethoven? Those short, emphatic opening statements sound very familiar. And the crescendo that builds with ferociously churning strings, punctuated by brass and colored with supportive commentary from the winds, could be associated with any one of those three names. In fact, these distinct stylistic trademarks originated not in the Vienna of Mozart, Haydn, and Beethoven, but in the Hamburg and Berlin of Carl Philipp Emanuel Bach, the second surviving son of Johann Sebastian.

As chamber musician to Frederick the Great, music director for several Hamburg churches, and composer of a substantial body of symphonies, concertos, quartets, passions, cantatas, songs, and chamber music, C. P. E. easily forged a style distinct from that of his father, from whom he had received his early music lessons. C. P. E.'s often startlingly unique approach to his keyboard works—and, later, his symphonic compositions—did not go unnoticed by his Viennese contemporaries, especially the ever-resourceful Haydn and the unendingly curious Beethoven. A listen to any one of the works on this recording will immediately reveal the depth and richness of C. P. E.'s influence.

The writing is characterized by a firm confidence of form and structure, a character made especially vivid in these interpretations by the Akademie für Alte Musik Berlin—there appear to be no wasted notes or ineffective repetitions of material. Such concision takes nothing from the music's dramatic power; in fact, it gives more weight to the phrases, with their often quick dynamic changes. C. P. E. Bach's own stated purpose in his compositions was "to move the heart and to excite the passions." In other words, the composer was bringing to the fore the idea that emotion in all its forms and fancies would govern the music's struc-

ture and its execution in performance—a controversial concept in the mid-18th century.

Almost anywhere in these symphonies you'll find rapidly changing effects and shifts in direction, be they of harmony, melody, rhythm, or dynamics. Although none of these three-movement works is more than 15 minutes long, Bach packs more into 15 minutes than most composers do in 30. There is never time for relaxation, or even an ounce of boredom.

Understanding the emotional force of these works and how to properly translate it while avoiding melodrama is the task that faces serious performers of C. P. E. Bach's music. The Akademie strikes just the right balance, choosing to take risks where others might opt for a stereotypically mannered approach. Dynamics are forceful and contrasts are real—nothing polite here. Rather, the Akademie's vigorous playing allows full realization of the music's spirited if sometimes fretful personality. The strings, especially, are confronted with virtuosic demands—a challenge that these players finish off like a quick lunch. Such precision—in every good sense of the word—comes not just from lots of rehearsal, but also from players who already know their stuff. The music of C. P. E. Bach greatly benefits from the gritty bite and reedy timbres of period winds, brass, and strings, and there is a huge sonic payoff here. In fact, this entire project rings, dances, and resonates with inspired music made with an ear not just to re-creating an "authentic" performance, but to truly enlarge and enliven the listener's world with music that deserves far more attention.

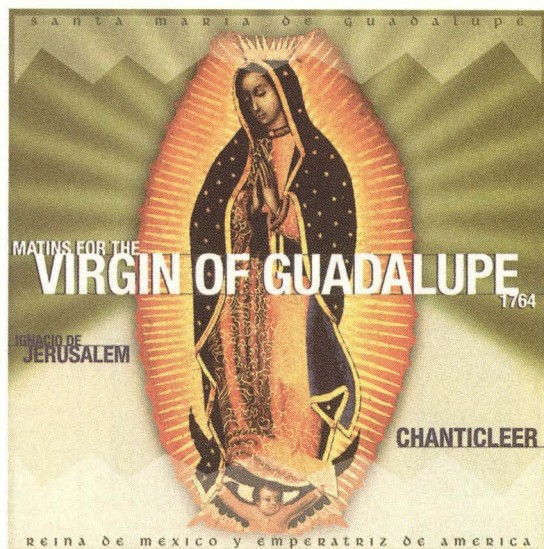
—David Vernier

IGNACIO DE JERUSALEM

Matins for the Virgin of Guadalupe, 1764

Chanticleer
Teldec 21829-2 (CD). 1997. Steve Barnett, prod.; Preston Smith, eng. DDD. TT: 68:47
Performance ★★★★★
Sonics ★★★★★

Don't get your hopes up too high for the music on this promising recording of a work written in Mexico in 1764—its novelty outweighs



its substance. Until very recently, modern performers and audiences knew almost nothing of the sizable body of Roman Catholic liturgical music written for the cathedrals that Spanish conquerors established in the New World as early as 1531. And it was in 1531 that a miraculous encounter with the Virgin Mary on a Mexican mountaintop led the church to authorize a service to honor "The Virgin of Guadalupe."

In subsequent centuries dozens of composers wrote music for this service, and for Mexico's foremost cathedral, the Basilica of Our Lady of Guadalupe in Mexico City. The version we hear on this disc—a service of Matins, or music for the liturgy celebrated in the early morning, including monophonic chant and elaborate, accompanied responsories—was written by one of many Italian composers recruited and transplanted to New Spain to help establish a viable, church-centered musical culture in a society newly converted to Christianity.

Unfortunately, while the idea of 18th-century Mexican church music suggests a certain exoticism and perhaps even inspired originality, the work performed so competently here by the all-male choir Chanticleer is long on functionality and very short on imagination. It's also something of a clash of styles—medium-grade Vivaldi crossed with minor Mozart—and technically skillful orchestral writing and routine choral scoring. Formulaic harmonies support rudimentary melodies. Overlong sequences and repetitive rhythmic patterns add an unwelcome air of predictability that bodes ill for a work more than 45 minutes long.

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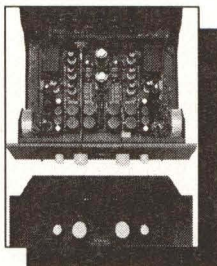


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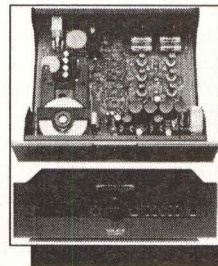
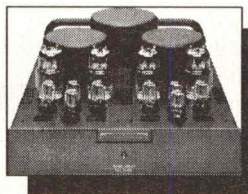


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Exploring unknown works by unknown composers from earlier times is a very noble activity—especially since so much high-quality music lies unheard in unpublished manuscripts in libraries, churches, and museums. This music simply doesn't belong in that exalted company; rather, it needs to be recognized in the context in which it was written. Following Spain's conquest of the Aztecs and the virtual destruction of their ancient civilization, cities were rebuilt, and European civilization—especially the Catholic faith—was imported from the motherland. Musicians were brought first from Spain, then from other parts of Europe, all of whom had been trained in the same traditions as had Palestrina, Victoria, Bach, Haydn, and Mozart. From this background came much of the music heard in the churches of Mexico.

This music, which includes sections for instruments, solo voices, and full choir, is not unattractive, but there's nothing that makes you sit up and take notice. The singing from this fully professional ensemble is first-rate, and the period-instrument orchestra is outstanding. However, the same can't be said for the soloists, all of whom come from the ranks of the choir. A sluggish bass drags down the responsory "Quae est ista, quae processit," and "Beata me dicent omnes"—a gratuitously decorative aria—receives no help from a pretty but matter-of-fact rendition. And, as beautiful as the male alto voice can be—and is here—I can't get used to the sound of men's voices singing soprano parts. The packaging, for all its stunning color and eye-catching design, is dubiously distinguished by its virtually unreadable liner notes. —David Vernier

RAMEAU

Les Fêtes d'Hébé

Sophie Daneman, Sarah Connolly, Maryseult Wieszorek, Gaëlle Méchaly, sopranos; Jean-Paul Fouchécourt, Paul Agnew, hautes-contras; Luc Coadou, Thierry Félix, Matthieu Lécroart, Laurent Slaars, basses; Les Arts Florissants, William Christie
Erato 3894-21064-2 (2 CDs). 1997. Jean-Pierre Loisel, prod. DDD. TT: 2:28:00
Performance ★★★★★ 1/2
Sonics ★★★★★

"Beguiling" is not a word I toss about lightly, but that's just what this vaguely indescribable opera-ballet is. The libretto is as close to nothing as possible while remaining coherent: Hébé, cupbearer of the gods, is bored; he takes a bunch of pals to the banks of the Seine, where they are entertained by the pleasures of Poetry, Music, and Dance. Period. There

are our prologue and three acts, and that, apparently accompanied by superb, lavish sets and brilliant dancing, is precisely what wealthy Parisians wanted and got in 1739. *Les Fêtes d'Hébé* was a great hit, and if you don't mind a plot that never develops, it's easy to see why.

Excepting depth of purpose, this work has everything Rameau is great at: Arias, ariosos, and choruses vary among festive, reflective, pastoral, and pompous, and the many dance movements are spectacular. (Was there a greater composer of dance music than Rameau?) Musettes, fifes, and drums are added to Christie's already rich band, and they make quite a grand noise. The soloists are uniformly excellent—most sing different roles in each act—but the haute-contre Jean-Paul Fouchécourt and soprano Sophie Daneman should be singled out for particular praise.

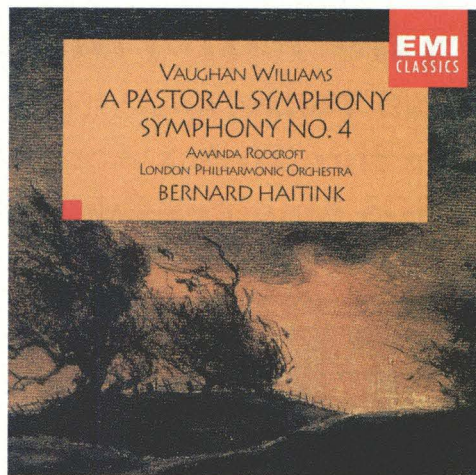
Erato has given this work a particularly vivid soundstage—each high tinkle and low thump is clean and clear without being artificial, and the celebratory "big" moments will make your speakers happy. This, the epitome of a certain type of French Baroque froufrou, designed solely to entertain, cannot be too highly recommended. If you're looking for depth in Rameau, go to *Hippolyte et Aricie*; for fun, this is the right place to be. —Robert Levine

VAUGHAN WILLIAMS

A Pastoral Symphony (3), Symphony 4

Amanda Roccroft, soprano (Symphony 3); Bernard Haitink, London Philharmonic
EMI 56564 2 (CD). 1998. Simon Woods, prod.; John Kurlander, eng.; Jennifer Howells, ed. DDD.
TT: 72:00
Performance ★★★★★
Sonics ★★★★★

Of the important conductors of the past 30 years, Bernard Haitink, although respected for his integrity and his honest, solid musicianship, has been criticized for his lack of imagination and showmanship. His heyday at the head of the Royal Concertgebouw coincided with the undeniably more riveting heydays of Karajan/Berlin, Solti/Chicago, and the global reach of Leonard Bernstein. With these giants gone, Haitink enters a mature heyday of his own, and continues to delve into Vaughan Williams, whose symphonies have held little interest for most continental European conductors.



Begun in 1984 with *Sinfonia Antartica* and continued fitfully with *A Sea Symphony*, *A London Symphony*, and *Symphony 5*, Haitink's VW cycle for EMI has what must be the most prolonged gestation period of any symphony cycle ever undertaken. In each case there has been much in earnest but little to add to ground (or waters) already covered by Boult, Previn, Handley, and a growing host of others. Not that there hasn't been room for another attempt. No one has yet equaled the consistent quality of Boult's first Decca/London mono cycle of the early to middle '50s of the then-seven-symphony canon. Despite the availability of no less than five complete VW cycles in stereo, mix-and-match continues to be the most effective way to collect all nine of VW's symphonies in their best performances.

Although those familiar with it consider *A Pastoral Symphony* (aka *Symphony 3*) to be one of VW's major masterpieces, it remains one of his least understood and least appreciated works. Moreover, it's a safe and ironic bet that more listeners and musicians understand and appreciate the knotty nasties of Schoenberg, Berg, and Webern than have heard this haunting and evocative piece by Ralph Vaughan Williams. RVW did not favor dispensing programs with his music, preferring audiences to draw their own conclusions from listening. The public, as well as critics of the early '20s, were permitted to assume that VW was giving them a current British equivalent to Beethoven's tramp though the Vienna Woods—a tramp through Hampstead Heath, perhaps. This misconception was perpetuated as recently as the early '50s by Hubert Foss, who, in his liner notes for the first Boult recording, referred to the English countryside, the Lake poets, and the Malvern Hills.

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Aside from the unintentional rivalry with Beethoven, many people were not prepared to deal with a "pastoral" symphony of such ruminative pacing and solemnity.

The real meaning of *A Pastoral Symphony* has its roots in the composer's experience as a noncombatant medical orderly in France during WWI, where he witnessed first-hand the ghastly results and murderous capabilities of large-scale industrialized warfare. RVW was well into his mid-40s by the war's end; the world of his youth, most of the assumptions that went with it, and many of his friends and associates had been lost forever. *A Pastoral Symphony* is regarded as his requiem for that lost world, but not a requiem of tolling bells, angry *Dies irae*, or wailing *Lacrymosae*. Nor is its pastoral setting some fragrant meadow in France or England, but a deep metaphoric space within the composer himself, a place of retreat where he could work out his feelings of bewilderment and loss for the catastrophic events that had overtaken his world.

In all fairness, there have been no "bad" recordings of *A Pastoral Symphony*, but this one rises so far above the others as to occupy a class by itself. Although showmanship would not be a strong factor in projecting such a serious work, imagination is a key factor. In a rare achievement these days, Haitink has gotten his players to go to the next level beyond ink and paper—he's got them reading between the lines. Some reviewers have noted that Haitink's tempos for this symphony are slower than those of other conductors. What is more important is his sense of timing and agogics, and, most important, the underlying pulse, lack of attention to which has been the Achilles' heel of otherwise good performances of this piece. Moreover, trumpeter Paul Beniston gives the most secure and musically poised rendition yet of the second movement's mournful bugle call with its flatted seventh. Soprano Amanda Roocroft frames the elegiac finale with a hauntingly intoned off-stage vocalise, based on the composer's recollection of a peasant woman passing on a distant country road.

By the time *Symphony 4* was stirring in his mind the composer was in his 60s, and was watching the next gathering storm. This time it was no more Mr. Niceguy—*Symphony 6* is angry, violent. Even its quiet moments are informed by distant menace, and its scherzo is a study in mordant gallows humor. A formal kinship to Beethoven's Fifth has been noted, and numerous musical puns throughout

the work, recalling in Ivesian fashion such disparate sources as Brahms, Mahler, and Rossini, seem too coincidental to be accidents.

Symphony 4 has fared better in the concert hall than the *Pastoral*, and is rare among VW symphonies in having been recorded as a stand-alone twice by the New York Philharmonic, under Dimitri Mitropoulos and Leonard Bernstein. Each is available on CD from Sony. The greatly prized 1938 live performance by the BBCSO, led by the composer, has been reissued on CD by Dutton Labs. Although Haitink does not outclass his rivals to the same degree in 4 as he does in *Pastoral*, he still turns in a performance that exemplifies the well-known Haitink self-restraint, yet reveals a lesser-known "inner" Haitink who wants to burst out of his well-bred bounds, to just raise hell and take no prisoners.

It is a special pleasure to be able to listen to such excellent performances in sound to match. Recorded in the Colosseum, Watford in October 1996, the production gives the listener the same apparent viewpoint for both works—slightly forward of the center "stalls"—with credible, stable perspectives, convincing presence and detail, and a wide dynamic range. In addition, the low-frequency pickup on this recording allows the bass-drum strokes in the third movement of *Pastoral* to register in a way not heard on previous recordings of this work. These are not lease-busting cannonades, but hushed, sub-audible, center-of-the-earth bumps in the night that will provide a deeply moving experience to those whose systems can go down there.

—Richard Schneider

WAGNER

Sutured Chunks

Arranged by Henk de Vlieger
Edo de Waart, Netherlands Radio Philharmonic

Der Ring: An Orchestral Adventure

RCA Victor Red Seal 44784 2 (CD). 1997. Netherlands Radio Philharmonic, prods.; Arie Dubbeldam, eng. DDD. TT: 67:09

Tristan und Isolde: An Orchestral Passion

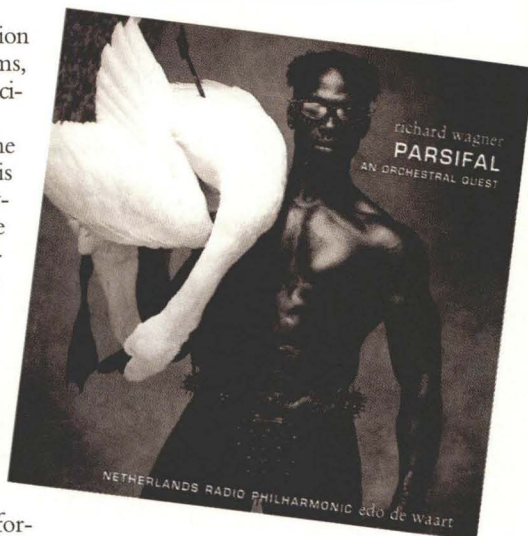
RCA Victor Red Seal 44785 2 (CD). 1997. Tom Peeters, prod.; Arnout Probst, eng. DDD. TT: 64:20

Parsifal: An Orchestral Quest

RCA Victor Red Seal 44786 2 (CD). 1997. C. Jared Sacks, prod.; Bert van der Wolf, Tom Peeters, engs. DDD. TT: 53:58

All three:
Performance ★★★★★/2
Sonics ★★1/2

Wagnerites perfect and imperfect have learned to run, not walk, from such well-mean-



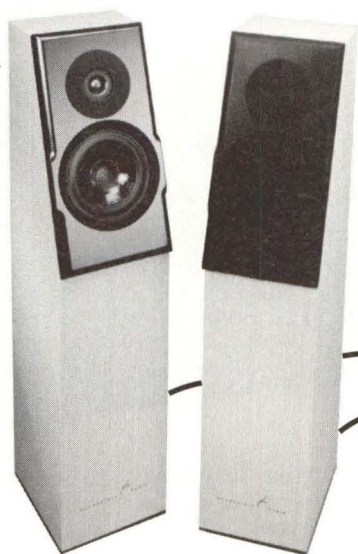
ing but almost invariably ill-conceived projects as *The Ring Without Words* (Maazel, Telarc CD-80154) or *Tannhäuser Without Words* (Maazel, Sony SK 47178)—the proverbial "bleeding chunks" of instrumental music ripped from Wagner's operas and basted together with staples, bailing wire, and a bolt through the neck.

So when music editor Robert Baird handed me these three new "orchestral adventures" based on and derived from the bulk of Wagner's mature work, I groaned. Why bother? I'd never heard a single such exercise that worked. All they'd ever made me want to do is rip them out of the CD player and listen to a complete recording of the opera in question.

Well, what a surprise these turned out to be. These treatments by Henk de Vlieger, a percussionist with the Netherlands Radio Philharmonic whose avocation this sort of thing is (he's also arranged Mussorgsky's *Pictures at an Exhibition* for percussion orchestra), are marvels of the (re)arranging art. My usual experience was reversed: Instead of wincing and cringing in advance at the approach of the next awkward, jarring, hamhanded splice or patch or recomposition, time after time I had the deliciously unsettling experience of finding myself suddenly several scenes or acts further along in an opera's action with no idea how I'd been transported there, but delighted that I had been. It is a testament to de Vlieger's grace and craft, and to Edo de Waart's sympathetic, well-informed, and deeply felt conducting, that soon I was eagerly anticipating each new join. I couldn't wait to hear what they'd come up with next.

In fact, some of the new transitions in *Der Ring: An Orchestral Adventure* are so

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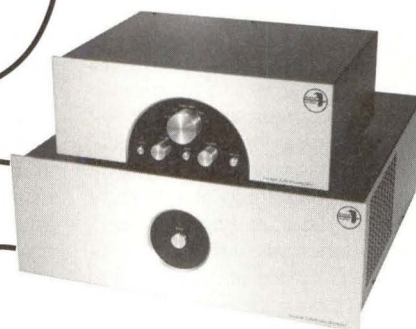


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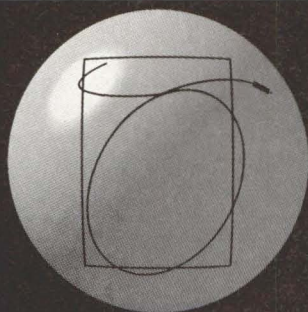


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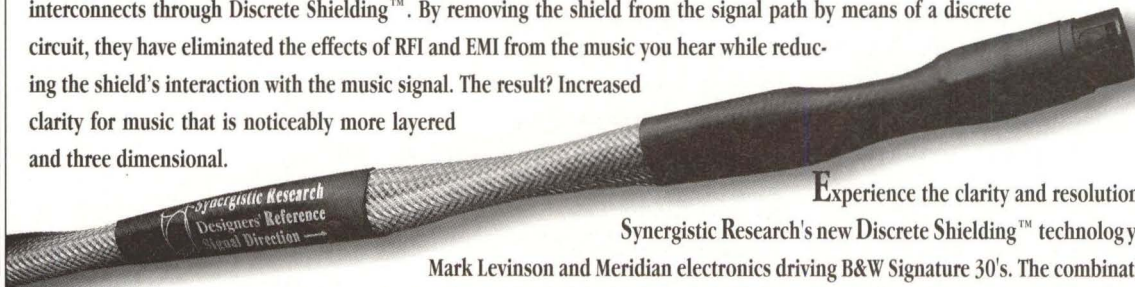
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magically “right” as to rival Wagner’s own in fluidity and concision, even if the stories these purely orchestral confections tell end up to be not quite the same as those of the music-dramas from which they’ve been condensed—as if the Wagner of the *Götterdämmerung* era, at the height of his compositional powers and idiom, had decided to tell his vast tetralogy as a single tone poem. (Thus there are no voices, solo or choral, in any of these recordings; the vocal lines are substituted with appropriate instruments or, more often, simply ignored. This almost invariably works; the only awkwardness is the replacement of the *Parsifal* Knights’ chorus with trombones.)

Rather than just string together Wagner’s greatest hits, de Vlieger has eschewed some of the more “obvious” excerpts—“The Entry of the Gods into Valhalla” (*Rheingold*), Siegmund’s “Winterstürme” song (*Walküre*), Siegfried’s “Forging Song,” and the prelude to Act III of *Siegfried*, etc.—clearly because they are too self-contained, and would not lend themselves to a furthering of dramatic flow. And, since in Wagner music follows the dictates of drama and not the other way around, this means de Vlieger has worked with the composer, not against him. It is Wagner’s leitmotifs that have led de Vlieger from excerpt to excerpt, not the need to cram in as many concert crowd pleasers as a CD can hold.

Each disc includes passages of music from the operas that, as far as I know, have never before been excerpted anywhere, even as concert bonbons. Unlike previous such compilations, whose intent was always pure popularization, de Vlieger’s work not only serves that by no means dishonorable end, but is even more satisfying the more familiar the listener is with Wagner’s work. A very neat trick.

Some examples from *Der Ring*: In the transition from Wotan’s apostrophe to Valhalla at the end of *Das Rheingold*, where the “Sword” leitmotif is born, that theme is, like a transparency, laid briefly over its later transformation in the Act II prelude to *Die Walküre*, where the famous “Riding” motif first appears. De Vlieger then leaps to Act III and the “Ride” itself—all in less time than it takes to read this description, and far less seamlessly. The transition from the end of the “Magic Fire Music” (*Walküre*, Act III) directly into the “Forest Murmurs” (*Siegfried*, Act II) is downright magical. And de Vlieger shows great sensitivity

to *Götterdämmerung*’s dramatic throughline in his transition from “Siegfried’s Rhine Journey” (Prologue) to the “Funeral Music” (Act III), backtracking en route to sample just the right few minutes of Act II.v, in which Brünnhilde, Gunther, and Hagen plot the hero’s death.



Though the *Ring* has always been the Wagner work most often subjected to the “orchestral odyssey” treatment, *Tristan und Isolde* and *Parsifal* are far better candidates: their musical textures are more cohesive and integral, their leitmotifs fewer and less literally specific than those of the *Ring*, and their characters less idiosyncratically drawn grotesques than grand archetypes of not overwhelming individuality. In fact, it is in *Tristan* and *Parsifal*, Wagner’s most “symphonic” operas, that his Greek-chorus orchestra most effectively and completely takes over the task of emotional storytelling.

Though de Vlieger’s ear and instincts are virtually perfect mimics of Wagner’s own idiom in the new links composed for these suites, he is even more impressive in clearly knowing when *not* to compose new linking material. In *Tristan und Isolde: An Orchestral Passion* he takes this latter approach, employing the *Luftpausen* that became so important in

late Wagner: at the right moment, things just stop—and, after a pregnant hush, a caught breath, resume. Such pauses work beautifully here, in places Wagner never composed for them.

Parsifal: An Orchestral Quest contains perhaps the finest example of de Vlieger’s deft sleight-of-score: when he shifts directly from the end of the Act I Prelude to brief snippets from *Parsifal*’s entrance in Act II, back to even briefer excerpts from his entrance in I, then fast-forwards to the Grail Knights’ transition music later in Act I. Though a verbal description makes it sound like a CD player gone haywire, the reality evinces elegant musical and dramatic sense.

None of this would have worked so well without a conductor as meticulous and deep-hearted as Edo de Waart. The Wagner faithful will recognize in de Waart’s tempos the firmly loose grasps of Knappertsbusch and Furtwängler, including the latter’s somewhat diffuse attacks. Though I have somehow remained immune to Furtwängler’s spell through more than 30 years of Wagner listening, it is in de Waart’s leadership here that I hear for the first time what his long-dead musical forbear was getting at. De Waart’s terrific sense of the long-breathed orchestral line allows him to sculpt lovingly and at length while never losing the rhythmic pulse—a pulse that is the most important aspect of Wagner’s music, and the most elusive. Now I want to hear de Waart conduct in full all six of the operas here excerpted.

The sound is convincingly that of an orchestra in a real hall—I heard no spot-miking, and the orchestral portrait was convincingly painterly rather than photorealist. Massed *ff* and *fff* violins were a bit grainy, however. As for Erwin Olaf’s refreshingly outrageous black-and-white cover photographs...see for yourself. Though I think the images ultimately speak more for themselves than for Wagner, they made me laugh out loud in delight. But even if, say, the *Tristan* cover offends you, don’t let it keep you from the musical delights within.

Rather than the frustration I usually feel on hearing Wagner excerpts, a frustration allayed only by then listening to the complete unedited work, my reaction to these three richly rewarding reconfigurings was to realize again, as if for the first time, how powerful this music truly is. And from an arranger, a conductor, a record company...what more can one ask?

—Richard Lehnert

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VAN MORRISON

The Philosopher's Stone: The Unreleased Tapes, Volume One

Polydor 31453 1789 2 (2 CDs). 1998. Van Morrison, prod.; Brooks Arthur, Jim Stern, Gary Ladinsky, Mick Glossop, Henry Lewy, Mud, engs. AAD. TT: 2:33:21

Performance ★★★★★
Sonic ★★★★★

The *Philosopher's Stone* is a collection so startling—simply from the fact that so many high-quality Van Morrison outtakes are in existence, but also because material from the early 1970s fits perfectly with his latest work—that it just as easily could have been titled “The Rosetta Stone.”

That's because *The Philosopher's Stone* goes further toward explaining what the complex Morrison is really about than any single volume in his prolific discography. *Stone* lacks the incandescent turn or hit single that usually defines an album; instead, it gives us a glimpse into the workings of an intricate mind.

Through much of his early career, Morrison ricocheted between a commercial success he clearly found stultifying and a willful insistence on making brilliantly lyrical works that did not sell. His earliest endeavors in the mid-1960s, as leader of the Irish rock group Them, placed Morrison in a position to challenge such blues-rock icons as Eric Burdon and Mick Jagger. But Morrison chose to go in another direction, writing pop r&b classics such as “Brown Eyed Girl.”

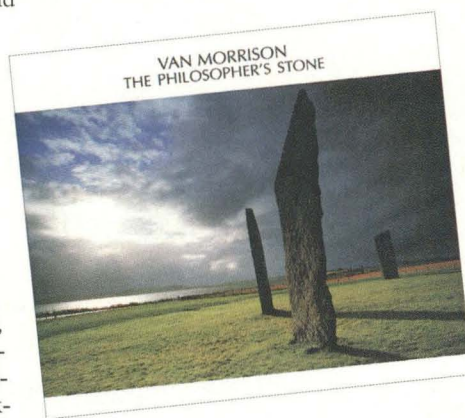
Even after establishing himself as a solo act, Morrison rebelled, escaping his first solo contract by recording a series of willfully unreleasable songs with bitter titles like “The Big Royalty Check” and “Blow In Your Nose.” He then signed with Warner Bros. and released one of the most critically acclaimed albums in pop history: *Astral Weeks*, a dreamlike combination of jazz, folk, classical, and r&b elements. The record sold poorly, but Morrison soon followed with a string of hit singles—“Moondance,” “Domino,” “Tupelo Honey,” “Wild Nights”—that made him a star.

“Really Don't Know,” the opening track on *Stone*, was recorded in 1971 and stands in stark contrast to the upbeat love songs he was scoring hits with at the time. This is the somber side of Morrison, brooding without under-

standing: “Really don't know just what's wrong / Feel like I don't belong.”

The breakup of his marriage in 1973 plunged Morrison into the introspective mood mirrored in the album *Hard Nose the Highway*. He followed this with his most personal and lyrical record, a tribute to his Celtic roots, *Veedon Fleece*. Between these two records, and released for the first time on *Philosopher's Stone*, is an entire “lost” album's worth of material—nine songs that offer a fascinating look inside Morrison's psyche.

The key track, “Wonderful Remark,” later surfaced in a different version as part of the *King of Comedy* soundtrack. Here Morrison seems to castigate God for allowing so much violence in the world and ignoring the cries of the grief-



stricken. In “Not Supposed to Break Down” Morrison rails at the “safe and sound” in society who turn their backs on the suffering of fellow humans.

All of the anguish and betrayal surrounding his career in the music business come flooding out on “Drumshanbo Hustle,” Morrison's own version of *The Commitments*: “They were trying to muscle in on the gigs and recording and the publishing,” Morrison sings. “You were puking up your guts / when you read the standard contract you just signed.”

It's easy to understand why in 1973 his record company chose not to release this material, encouraging him to write another “Brown Eyed Girl” or “Domino” instead. But the stark realism and pain Morrison reveals here make for compelling listening today.

The rest of the 1973 tracks show Morrison trying to harness a kind of lyric poetry that would fuse his love for nature, music, and humanity with his desire for tranquility in his life. Morrison had reached the point as an artist where he felt he owed nothing to anything but the art itself and his own spiritual well-being—he resented the

industry for trying to package him, the critics for putting aesthetic demands on him, and—perhaps based on some of his notorious acts of onstage petulance—even the audience itself for demanding that he give them what he used to be instead of what he was becoming.

Conventional wisdom has Morrison suffering from writer's block during the time leading up to the 1977 release of *A Period of Transition*, a roots album pairing him with a crack studio band led by Dr. John on keyboards. But *Philosopher's Stone* makes it look more like Morrison was trying to reinvigorate his art from the bottom up.

Critics who challenged *Transition's* very title (“From what to what?” asked *Rolling Stone*) slammed Morrison for refusing to assume the mantle of stardom. But these outtakes show that Morrison was trying to ground himself in music that he trusted, much as Bob Dylan did at the beginning of the 1990s with the roots albums *Good as I Been to You* and *World Gone Wrong*. Now we finally hear Morrison's version of the quintessential American folk tale “John Henry” (“It's only my hammer suckin' wind,” he concludes), and his wrangling attack on Leadbelly's “Western Plain,” with its wild harmonica solo.

Morrison offers another bitter view of stardom in “Showbusiness,” a 1982 track recorded just as MTV was about to change the entire nature of the music industry. “Say you wanna be in show business,” Morrison draws. “See the man on the TV with a phony smile.”

He seems to review his own career when he sings “Have a hit, maybe two / Make mincemeat out of you. / Control your fate, control your life / They can make you leave your wife.” Then, in a dramatic turn, Morrison lines up the suckers on the bridge: “And the next one, and the next one, / and the next one—just like the last one.”

Morrison's career has been a struggle not to be “just like the last one”—an ongoing battle he comes closer to winning the longer he perseveres. The rest of the tracks take us through 1988 and show Morrison waxing rhapsodic, praising Dylan Thomas, setting William Butler Yeats “Crazy Jane Talks to God” to music and ruminating on childhood memories. The set closes, appropriately enough, with the joyous “High Spirits,” a Celtic tune with Gaelic lyrics recorded with the Chieftains. For Morrison, bringing the music of his youth into focus with his adult life is the wisdom revealed in *The Philosopher's Stone*. —John Swenson



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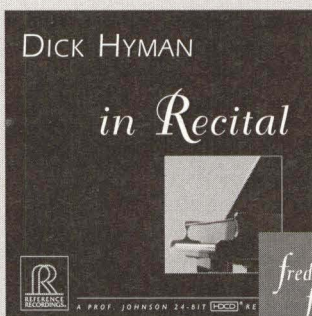
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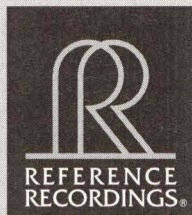
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LUCINDA WILLIAMS

Lucinda Williams

Koch KOC-CD-8005 (CD). 1988, 1998. Lucinda Williams, Gurf Morlix, prods.; Dusty Wakeman, co-prod., eng.; Michael Dumas, asst. eng.; Randy Leroy, remastering. AAD? TT: 59:35

Performance ★★★★★

Sonics ★★★★★

Car Wheels on a Gravel Road

Mercury 314-558 338-2 (CD). 1988. Steve Earle, Ray Kennedy, Roy Bittan, Lucinda Williams, prods.; Rick Rubin, Jim Scott, Ed Thacker, Steve Churchyard, engs. AAD? TT: 51:50

Performance ★★★★★

Sonics ★★★★★

It was a decade ago this year. I remember standing in the Ritz Theatre in Austin during the annual South by Southwest Music and Media Conference (or, more accurately, the Ritz's ruins—one huge chunk of ceiling was gone, and another was peeled back and hanging precariously) at least an hour after they'd stopped selling beer (in Texas, that's 3am), practically vibrating with excitement as I waited for Lucinda Williams to finally make an appearance.

Williams had just released her self-titled third album, which, given its cover's dominant color, would forever after be known as her "white album." A couple of listens and every critic, music-head, and person of taste I knew was hooked. Many of them had packed into the Ritz that night. Despite coming on three hours late and having to sing through the kind of ratty, about-to-blow PA that has all the fidelity of a telephone, Williams slayed us.

To add to the resulting positive buzz, her label, Rough Trade, was at that point beginning to teeter on the edge of bankruptcy. Although the final crash didn't come until 1991, her record never received the push it deserved. So not only were the songs and lyrics killer, but Williams had become a cult artist whose best record was hard to find. I can still see several writer friends careening toward the register at Austin's Waterloo Records with armloads of *Lucinda Williams*. "I'm giving them as gifts," they assured me. Convinced it was better to be safe than sorry, I too got in on the action and picked up several spare copies, both vinyl and CD, just in case. Those extras came in handy a few years later when a long-time girlfriend and I were splitting up. Told she could take whatever records she wanted from my collection, she chose one: *Lucinda Williams*.

Because it was only intermittently available and was full of quality songs, *Lucinda Williams* has lived on as a singers' mother lode. Mary Chapin Carpenter won a Grammy for her version of "Passionate Kisses" (though Williams'

SHELBY LEE ADAMS



"I am Lucinda. I bid you vel-come." A terror in black leather, Lucinda Williams has confounded those who've called her a monster by making what some are already calling "The Album of the Year."

original version is infinitely superior), and Patty Loveless rode "The Night's Too Long" to number 20 on the country charts. Reissued by Chameleon Records in 1992 to coincide with the release of her follow-up, *Sweet Old World*, the white album again slipped out of sight when Chameleon drifted off into this good night in 1994.

Now it's back on Koch, complete with six bonus tracks and a remastering job that went back to the original two-track tapes. From the organ-driven rock'n'roll opener of "I Just Wanted to See You So Bad" and the playful "Big Red Sun Blues" to the more characteristic folk-rock of "Passionate Kisses" and "Crescent City"—not to mention her exquisite, hear-the-heart-breaking ballads "Abandoned" and "Am I Too Blue"—this disc remains a stone classic, and now it sounds better than ever. Argue if you will about the arrangements (they can be chunky), but the passion in the lyrics and the hooks in the songs are there. Rarely does a single disc contain this many outrageously strong originals. The coda, Williams' convincing take on Howlin' Wolf's "I Ask for Water (He Gave Me Gasoline)," is still the perfect touch.

While that may all sound (or read) like a mouthful, Williams' adventures were just beginning. In 1994 she signed with Rick Rubin's American Records (which later closed), and since then has been working on her "new" album. According to most of the now numerous accounts, at least two entire albums were junked before *Car Wheels on a Gravel Road* finally saw the light of day in July. In the intervening years, Williams recorded, mixed,

remixed, threw fits, re-recorded, got in fights with her pals, remixed again, and, in a wonderfully pugnacious outburst on a New York stage, even got in a few verbal licks at those scribes who, after her four years in the studio, suggested in print that she might be "difficult" to work with. The making of this record is a legend that will probably benefit her career in the long run.

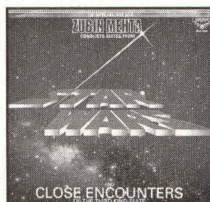
In the end, however, it all comes down to the music. Had *Car Wheels* been a stiff, Williams would have been buried Laura Nyro style—probably forever. But despite all the crap that built up, she's pulled it off. *Car Wheels* is radiant. Although her voice can be an acquired taste on the order of Jimmie Dale Gilmore, the vocals here, several of which are sung at a whisper, are far and away the best of her career. In the languorous, sexy "Right in Time" (which has the upbeat pace and mood of "Passionate Kisses"), she's a kitten. In the gutbuckety, slide-guitar-filled "Can't Let Go," her dry, painful delivery in the choruses accentuates the pain of being forced to accept a relationship's end. On the album's single, "Metal Firecracker," her plaintive vocals on what are probably the most affecting lines on the album, "All I ask / Don't tell anybody the secrets / Don't tell anybody the secrets / I told you" make for a touching combination.

Like those of all gifted songwriters, Williams' style has become instantly recognizable: bittersweet, folky, singer/songwriter fare with a touch of twang and more than a few moments of four-footed rock. While there are fewer ballads here than on previous albums, her



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subject is still love, and, as in her past efforts, she sings of love mostly in terms of losing it and/or longing for its return. The guest list for this disc includes Steve Earle, Roy Bittan (both of whom also produced), Jim Lauderdale, Buddy Miller, and Emmylou Harris, who adds a gorgeous background vocal to "Greenville."

Considering the ungodly process this disc went through, it's not surprising that it ain't the most spontaneous record in the world. While you can in places hear the Frankenstein lines—they punched in and out one too many times—these songs are so strong they could withstand almost anything, including four years of compulsive tinkering. The outside producers—Bittan, Earle, and Ray Kennedy—all deserve a huge hug for making this one happen. God help 'em.

The poet W.H. Auden said (and I paraphrase) that you never finish a poem—you abandon it. That seems to be the story here. In listening, you do get the feeling that maybe this disc might have been better off had it been "abandoned" a few years ago. Too many cooks, and all that. But despite her new record's tortured lineage, Lucinda Williams has, despite all the roadblocks of her own making, come up with a fine album, one that almost equals *Lucinda Williams*. Here's hoping she's already at work on the next one.

—Robert Baird

short takes

MARAH: *Let's Cut the Crap and Hook Up Later On Tonight*

Black Dog. No catalog number listed (CD). 1998. Paul Smith, Marah, prods. AAD? TT: 46:43
Performance ★★1/2
Sonics ★★★

The story of this curio sounded too good to be true: a bunch of regular joes spend nine months hand making a record in a room over a repair shop in South Philly called Frank's Auto, and Steve Earle, after hearing the results, was hot to sign 'em to his E-Squared label. Uh-huh. Given the advance, it's not surprising that this record ain't the holy grail. It is, however, a gently rocking, mostly acoustic collection that mixes urban folk'n'twang (hence Earle's interest) with touches of Jersey-shore Springsteen harmonica. Tunes like the straight-ahead, midtempo "Firecracker" or the more upbeat, Stonesey honk "Head On" show promise. While this isn't going to be a Living Stereo selection anytime soon, the sonics are at least in the ballpark. Black Dog: Blackdogtelapex.com or (601) 587-2047.

—RB

MACEO PARKER: *Funk Overload*

What Are Records WAR 60032 (CD). 1998. Daniel Wise, Maceo Parker, Natasha Maddison, Rob Gordon, Joachim Becker, prods. Johnny Drazic, eng. AAD? TT: 48:20
Performance ★★★★★
Sonics ★★★★★

Do you miss King Curtis? Tired of washed-out, overproduced "funk" records? This sweaty set is the cure.

!MJames Brown's band was, along with the George Clinton assemblages, the informal training ground for funk players, especially those on horns. Trombonist Fred Wesley and tenor-turned-alto-player Maceo Parker are two of Brown's chief discoveries. After recording for Verve, Gramavision, and Novus/RCA, Parker has moved over to What Are Record—a Boulder, Colorado-based indie label—and delivered a typically groove-heavy, smokin' sax funk session. In many ways, Parker's records are like his concerts, which, despite the fact that he's 55 years old, often go on for hours in one long, funky instrumental jam. Here he shows again why he's the reigning king of brass funk by blowing tight, inventive solo after solo on workouts like "Maceo's Groove," "We're On the Move," and "Uptown Up." Two covers—a guitar-led version of Marvin Gaye's "Let's Get It On" and a straight rendition of Chaka Khan's "Tell Me Something Good"—miss the mark, as do a trio of guest vocalists. More Maceo and fewer supporting players would have been better, but when he's out front, you can forgive the missteps. What Are Records: (303) 440-0666.

—RB

TOMMY WOMACK: *Positively Na Na*

Checked Past CPR 007 (CD). 1998. Brad Jones, Robin Eaton, prods., engs. AAD? TT: 34:36
Performance ★★1/2
Sonics ★★★★★

Humor can be a tough thing to get into your music. Novelty tunes are just that—throwaways that are good for about one listen. But Tommy Womack, former guitarist of the Bisquits, a long-lost (but fondly remembered) Nashville alternative band, is a master at sly lyrics. Here on this happy, rockin' solo debut, he leads off with two amusing, roundhouse knockout punches: "A Little Bit of Sex" ("Which is all you're ever gonna get anyhow") and "Skinny and Small," both of which have the kind of sturdy tunes and intelligent lyrics that make them much more than the average novelty tune. Try as he might to be serious (as in the title tune), Womack's sense of humor carries the best tunes here. His zesty, hound-dog singing is a perfect

match. Not funny—just fun. Checked Past: www.checkedpast.com.

—RB

jazz

GIANTS OF JAZZ GUITAR

JOHN SCOFIELD: *A Go Go*

John Scofield, guitar; John Medeski, keyboards; Chris Wood, bass; Billy Martin, drums
Verve 314 539 979-2 (CD). 1998. Lee Townsend, prod.; Joe Ferla, eng. AAD? TT: 51:53
Performance ★★★★★
Sonics ★★★★★

PAT MARTINO & JOYOUS LAKE: *Stone Blue*

Pat Martino, guitar; Eric Alexander, tenor sax; Delmar Brown, keyboards; James Genus, bass; Kenwood Dennard, drums
Blue Note 8 53082 2 (CD). 1998. Michael Cuscuna, prod.; Kirk Yano, eng. AAD? TT: 60:04
Performance ★★★★★ 1/2
Sonics ★★★★★

I stood by helplessly as a youthful generation of humorless young virtuosos distilled all of the funk from jazz, so it's nice to be able to report that a couple of dyed-in-the-wool jazz guitar heroes are presently doing their level best to put that funk back in. Between them, guitarists John Scofield and Pat Martino have long balanced a deep devotion to the complexities of modern jazz with an abiding love for the down-and-dirty blues of such guitarists as Otis Rush and Buddy Guy on one hand, and the funky-butt organ combos of the chittlin' circuit on the other. As the summer of 1998 passes, both players have chosen to re-examine their funky roots in compelling fashion: Scofield with a nostalgic good-time session and Martino by reuniting with old bandmates to craft the finest album of his career—a treatise on how compelling a modern jazz-funk amalgam can be.

Scofield's collaborators on *A Go Go* are the working band of (keyboardist John) Medeski, (drummer Billy) Martin, and (bassist Chris) Wood, doyens of New York's downtown scene and masters of retro funk. Medeski's predilection for ancient analog keyboards, coupled to Martin and Wood's deep, effortless groove, give *A Go Go* the smoky ambiance of an after-hours session once the dancers have gone home—when the cats be playing for themselves. And where Medeski, Martin & Wood's own solo efforts have always struck me as a little coy and campy, in taking on Scofield's masterful arrangements they display an earnest, unadorned feel for the many shades of funky blues.

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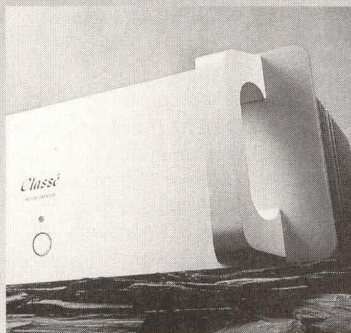
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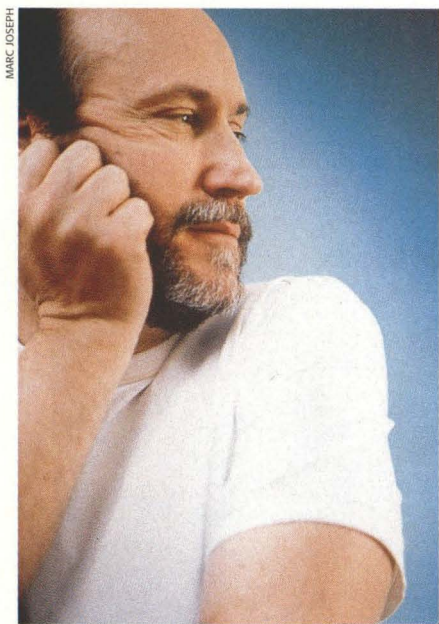


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John Scofield—A Go Go—Field

bass extension of the jungle groove on "Boozer" and the crackling metal-snare howl of "Southern Pacific," *A Go Go* is an audiophile's delight that will make your system sit up and wag its tail. Engineer Joe Ferla has done a remarkable job of capturing the sonic detail and dynamics of both electric and acoustic instruments—I can't think of many engineers with the vision (or balls) to record drums with such visceral impact and wide-open, in-your-face tonality. Scofield responds with some of his tautest, bluest solos ever, such as his taciturn lyric phrases on "Green Tea" and the soulful evocation of his Chicago-blues heroes on the title tune. But it is the colorful, good-humored nature of his writing that most impresses this longtime fan: from the inebriated gait of "Deadly" and the spooky cinematic effects of "Kubrick," to stunning depictions of grooves that might most readily be associated with James Brown ("Chank," "Hottentot") or the Meters ("Southern Pacific").

Stone Blue doesn't have the production values of *A Go Go*, nor does Pat Martino's dark, compressed, direct sound achieve the sense of tubey bloom that he craves. But the quality of Martino's writing—with its stunning tenor/guitar unisons, harmonically shifting vamps, and dynamic rhythmic changes—the intuitive level of musical interplay, the wealth of instrumental details, and the guitarist's ability to unravel fleet, hornlike elisions of epic complexity, utterly transcend the flat, boxy recording and airless mix.

On the title tune and throughout *Stone Blue*, Martino manages to balance the linear ebb and flow of modern jazz with the vamping rhythmic syncopations of funk, aided and abetted by James Genus' lithe, subterranean six-string bass lines and Kenwood Denard's magical polyrhythms. Denard is perhaps the most daring, under-appreciated rhythmic innovator this side of Mike Clark—listen to his fiery syncopations and explosive rolling counterpoint on the vamp and release of "With All the People." Delmar Brown's expansive, gritty keyboard palette offers a compelling, cliché-free orchestral dimension to each tune, while the youthful Alexander is an utterly authoritative young tenor, whether shouting the blues, essaying complex harmonic variations, or engaging in instrumental roll-reversal with Martino, as horn and guitar mimic each other's phrasing.

Among the highlights are Martino's tender blue teardrops on "Never Say Goodbye," the boppish locomotion of "Uptown Down," the gritty funk of "Mac Tough," and the soaring, expansive lyricism of "Joyous Lake." In fact, as I hit the repeat button again and again for "Joyous Lake," the overall sound suddenly seemed better than acceptable, my sonic quibbles no longer an issue in the presence of music that offers the promise of something new, of a guitarist with a spotty recorded output on the verge of an artistic breakthrough.

—Chip Stern

BENNY GOLSON

Tenor Legacy

Benny Golson, James Carter, Branford Marsalis, Harold Ashby, tenor saxes; Geoff Keezer, piano; Dwayne Burno, bass; Joe Farnsworth, drums
Arkadia Jazz 70742 (CD). 1996, 1998. Makoto Kimata, prod.; Katsuhiko Naito, eng. DDD? TT: 61:57

Performance ★★★★★

Sonics ★★★

Arkadia is a new jazz label whose recordings to date have been meticulous, high-quality productions with focus and purpose. Benny Golson, at 69, is one of the distinguished elder statesmen of jazz, the composer of such classics as "I Remember Clifford" and "Whisper Not." As a tenor saxophonist, Golson is an elegant musical thinker. Yet he is an acquired taste because of his curious, strangled, quivery intonation.

On *Tenor Legacy*, Arkadia creates an ideal setting for Golson by matching him with three other tenor players who take turns providing balances and contrasts in two-tenor front lines. The program of 10 songs, each a tribute to a different tenor

master, becomes a stirring celebration of the jazz instrument most capable of directly expressing a player's soul.

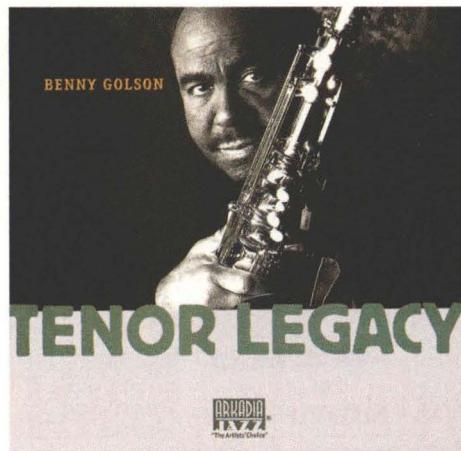
The other three horns are Harold Ashby (a now rarely heard septuagenarian who played with Duke Ellington), Branford Marsalis (the best all-around under-40-year-old tenor player in jazz), and James Carter (the most exciting tenor player still under 30).

There are risks in taking on songs as closely associated with their primary interpreters as "St. Thomas" (Sonny Rollins), "Lester Leaps In" (Lester Young), and "Girl from Ipanema" (Stan Getz). Golson's band rises brilliantly to the challenge. On "My Favorite Things" (John Coltrane), for example, Golson and Carter make an improbable and synergistic tandem, Golson slipping and sliding around what Rodgers and Hammerstein gave us, Carter fiercely expanding on what Coltrane did with the tune. (Carter is an explosive player who, like an Olympic gymnast in peak form, revels in outrageous spins and dangerous dismounts.)

Harold Ashby is the surprise of the session. He caresses "My Old Flame" (Zoot Sims) in a dark, warm, vulnerable tone of the kind we may not hear again after Ashby's generation has passed.

Branford Marsalis appears on only one piece, but it is the album's high point. Marsalis and Golson take turns patiently, lovingly deriving implications from Coleman Hawkins' famous statement on "Body and Soul."

The only disappointment in *Tenor Legacy* is that, sonically, it is not on the same level as other Arkadia albums—like Billy Taylor's *Music Keeps Us Young* and *Thank You, Gerry* by the Gerry Mulligan All-Star Tribute Band. The mix puts the instruments at one remove, and there is an odd right-channel dominance in the stereo split. —Thomas Conrad



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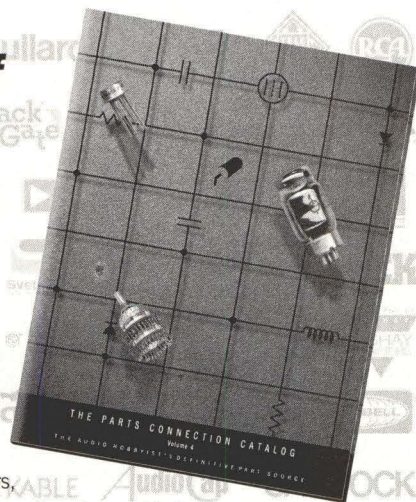
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SCOTT COLLEY: *Portable Universe*

Scott Colley, bass; David Binney, alto sax; Donny McCaslin, tenor sax; Chris Potter, soprano & tenor sax, bass clarinet; Kenny Werner, piano; Jeff Hirshfield, drums

Free Lance FRL-CD 027 (CD). 1998. Scott Colley, prod.; David Baker, prod., eng. DDD. TT: 58:11

Performance ★★★★★

Sonics ★★1/2

RAVI COLTRANE: *Moving Pictures*

Ravi Coltrane, tenor & soprano sax; Steve Coleman, alto sax; Ralph Alessi, trumpet; Michael Cain, piano; Lonnie Plaxico, bass; Jeff "Tain" Watts, drums; Ancient Vibrations (Junior Gabu Wedderburn, lead djembe; Jeremiah McFarlane, djembe; Clyde Wedderburn, djoun djoun)

BMG Classics 55887-2 (CD). 1998. Steve Coleman, prod.; Joseph Marciano, eng. DDD. TT: 66:31

Performance ★★★★★

Sonics ★★★★★

TIM RIES: *Universal Spirits*

Tim Ries, tenor & soprano sax; Scott Wendholt, trumpet; Ben Monder, guitar; Scott Colley, bass; Billy Drummond, drums

Criss Cross 1144 CD (CD). 1998. Gerry Teekens, prod.; Max Bolleman, eng. DDD. TT: 67:44

Performance ★★★★★

Sonics ★★★★★

WALT WEISKOPF: *Sleepless Nights*

Walt Weiskopf, tenor sax; Andy Fusco, alto sax; Conrad Herwig, trombone; Joel Weiskopf, piano; James Genus, bass; Billy Drummond, drums

Criss Cross 1147 CD (CD). 1998. Gerry Teekens, prod.; Max Bolleman, eng. DDD. TT: 53:20

Performance ★★★★★

Sonics ★★★★★

Manhattan: it's where almost all serious jazzers end up at one time or another, looking and competing for their 15-minute (and, hopefully, longer) Klieg-lit bask. Here we have three second-tier youngish vets in their mid to late 30s, and one semi-newcomer and potential star (28-year-old Coltrane), offering distinctive and diverse acoustic jazz that gives a picture of some of the jazz goings-on in the Apple.

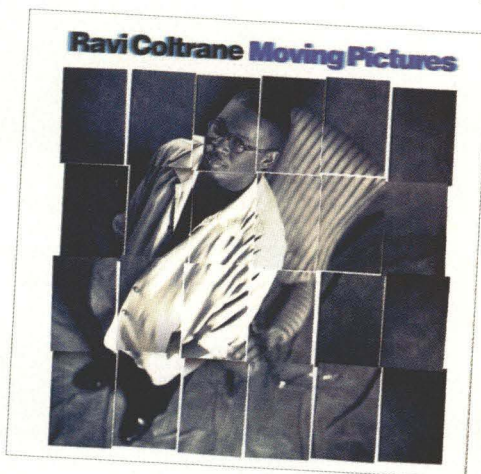
Bassist Scott Colley has bolstered bands led by Jim Hall, Joe Lovano, and Joe Henderson. He combines into a neat package a muscular tone, poised rhythm, and supple walking lines and improvisational statements. He's kind of a young version of Dave Holland, and on this debut shows that he can write with refreshing post-post-bop individuality as well as pull heartily on the strings.

The opening "Catalyst" is a 20-bar blues in which Potter is typically fluid and unfettered; he also takes the gritty, vampish "The Lean" by storm, working with just Hirshfield at one point, and smoking. Werner is never at a loss for something to say and offers luxuriant phrases on the sweet "Ethel." McCaslin's Trane-ish mode is expressed in his own "Prometheus Calling," and Binney cranks up the heat on "Catalyst," worrying a single note as tension rises, finally releasing into a cas-

cade of tones. The leader delivers big notes on the provocative, insinuating drums-bass duo "Voice of Thought," and plays ideas you want to hear again on "Ethel." The audio has a bit too much spread—the piano is far left—but there's a good soundstage and pretty crisp details.

Scion of the most influential jazzman in the last 35 years, Ravi Coltrane arrived quietly on the New York scene in 1991 after collecting a degree from California Institute of the Arts. He gathered experience, playing with Elvin Jones and altoist Coleman, and waited for a suitable moment to offer his debut. His instincts and timing were pretty on.

Free, sorta swingy ballads, "Inner Urge" in 7 à la M-Base—you get it all



from Coltrane. A bright, introspective guy, the saxophonist wisely stays away from his father's sound, though his proclivity for free playing could have parental derivations. The opening and closing numbers are completely spontaneous, the leader and Cal Arts buddy Alessi letting fly, booted by the engaging thump of the Ancient Vibrations. Also loose in structure are the ambling "Narcine" and the brisker "Mixed Media"; the solos do have their share of muscle, though occasionally one wishes for more harmonic ballast. That's nicely provided on the leader's "In Three for Thee" and Horace Silver's "Peace," where Coltrane's tenor is unhurried and sweet. Cain and Coleman are spirited foils, and Watts and Plaxico support with generosity and complexity. The large yet sometimes strangely bunched-together soundstage paints an appealing sonic picture of the proceedings.

Tim Ries, who's been heard in small combos as well as with large ensembles led by Maynard Ferguson, Maria

Schneider, and the late Mel Lewis, is another name that needs to be exposed, as the fine *Universal Spirit* shows.

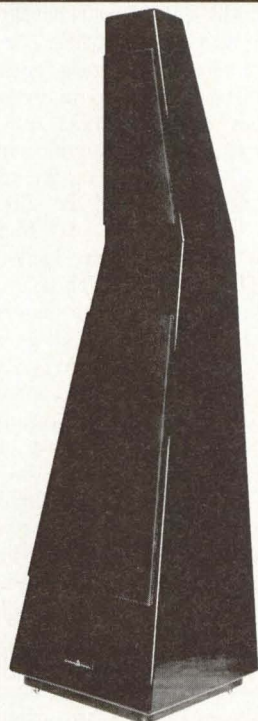
Working in an unusual context (sax and trumpet, with guitar/bass/drums as rhythm), Ries offers a view of the modern mainstream style that sometimes shows obvious influences—"Indeed" and "Free Three" recall Wayne Shorter's work for Miles. But Ries is equally distinctive in his tender "St. Michel" and his exultant version of Ornette's "Jayne." A saxophonist on the way to his own voice with touches of Trane and Joe Henderson, Ries's ideas pour out on "Jayne"—as do the amazing Wendholt's—while he's full of melodic juice and rhythmic whammy on "St. Michel." Monder's impressive, Jim Hall-based approach lights up "Free Three" with a seamless array of thick chords and fast, ripped lines. The drumless *Sililiano* that was inspired by Bach is wondrous, as are the agreeable thumps provided by Drummond, who also plays on the next recording. The audio has a nice live feel, with good placement and detail.

Though he first established himself in big bands—Buddy Rich in the early '80s, then, later, Toshiko Akiyoshi—Eastman School of Music grad Walt Weiskopf is really a small-group man—as a writer as well as a soloist—and the alto/tenor/trombone rhythm sextet format spotlighted here is like home. Except for "Come Rain or Come Shine," Weiskopf wrote all the tunes here—within the '90s modern mainstream, they have a pleasing breadth and sense of surprise. "Inner Loop" has a note-heavy, jackrabbit-clip theme and varied rhythms for the solos, while "Mind's Eye" is a relaxed bossa that becomes a one-chord vamp in which Weiskopf's use of repeated figures generates urgency. "Jazz Folk Song" sounds like the leader's take on Coltrane's "Africa"—it has that same pulse and bite—and Joel Weiskopf's piano solo hints at McCoy Tyner. The magical Fusco, who is Bird-like on "Come Rain," here is more ardent and punchy, and Herwig's effort shouts, albeit sweetly. The title track displays another of Weiskopf's commanding, let-the-notes-loose improvis; and "Liberian Lullaby" has a latter-era Jazz Messengers flair. The sound is fairly lively, though more diffuse than the other albums here: at times speaker-bound, with a generally smaller, less dramatic soundstage.

—Zan Stewart

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Manufacturers' Comments

Creek 4330 integrated amplifier

Editor:

I owe you an apology. For years I've been telling you that Sam Tellig is an idiot, that he knows nothing about hi-fi, and is close to stone deaf.

I take it all back.

Sam is a genius!

How did I arrive at that monumental decision? I'll tell you.

I read "Sam's Space" in the July 1998 *Stereophile*, the one where he talks about the Musical Fidelity X-A1, then ends the article with a conversation with Anthony Michaelson about bipolar transistors vs MOSFETs.

Anthony spouts such utter rubbish that Sam, wise man that he is, decides to quote him and expose him as a complete nitwit, rather than ignore him altogether.

What brilliance, what verve, what genius to allow the man to sentence himself to the Hi-Fi Farm for the Bewildered with his own words.

Sam, you are my hero!

What did Anthony say that causes me to write this missive? Let me explain.

Anthony said that "...you need multiple pairs of MOSFETs to drive a decent amount of current."

Wrong. Creek Audio has been making MOSFET amplifiers for many years using single pairs of n-channel MOSFETs. The smallest and most cost-effective devices they use are rated at 25 amps, 100V, 125W, and 14 Siemens. In MOSFET terms, this is tiny.

This is a far cry from the 5A Anthony talks about. He even says that "Bipolars are much more cost-effective." I guess he hasn't been reading any parts catalogs recently. Today, the cost of a powerful bipolar power transistor can be up to five times the cost of a similarly powered MOSFET.

Anthony sounds like a child of the late '70s. It is true that, back then, MOSFETs had very little gain. They weren't very good by comparison to the well-developed bipolar of the day. But things have changed, and the MOSFET is now both inexpensive and powerful.

My thanks to Sam for showing us how errant Anthony's statement was.

Oh my—a horrible thought has just struck me. Perhaps Sam *didn't* realize that Anthony had made a mistake? Perhaps he thinks Anthony was correct? He did, after all, end his column with the words "Good job, Anthony!"

Does this mean that all the nice things I

said about Sam were undeserved, and that Sam therefore must be a bigger idiot than I previously thought?

Oh goodness.

Editor, please take back everything nice I said about Sam in the beginning of this letter. I wouldn't want anyone to think that I really *like* that guy...

Roy Hall
Music Hall

Bryston B-60 integrated amplifier

Editor:

Thanks for Sam Tellig's further kind comments on the B-60. We have been pleased by the reaction to this little beastie. Just so you know, the line stage he liked in the B-60 is the one from our BP-20/25 series preamps.

By the way, since he liked the B-60 perhaps even better after it had been hit by lightning, we have decided, prior to shipping, to put each B-60 on a platform, which we raise up to the castle roof during storms, and let them get ZAPPED! (*It's...alive!!!!*) We go the last mile for our Bryston customers!

Christopher W. Russell
VP, Engineering, Bryston, Ltd.

Immedia on Audio Physic & rooms

Editor:

Let me thank John Atkinson and Jonathan Scull for taking the time to publish Immedia's room-mapping system. There are just a couple of things I'd like to address.

First, too much credit is given to Allen Perkins for having developed the procedure. (He told me to say that.) Allen simply observed the good people of Audio Physic as they went about setting up rooms at hi-fi shows. After studying the behavior of soundwave propagation in enclosed spaces, he decided to collect the information in his white paper. Now, it is true, Allen's schooling has given him a unique handle on human perception and the interactions of ear, brain, and memory. Of course, it also helps that these ideas were developed using analog sources.

Over 50 years ago, research proved that people respond to signals at least as high as 130kHz—the relatively unlimited frequency response of LP (vs CD) resolves the musical message better, and makes speaker setup go quicker—you just know when it's right. This system works well for most brands of speakers—one of the misunderstandings some people have is that this applies only to Audio Physic, or that

Audio Physic speakers come with the requirement for this kind of placement.

Actually, ever since Steely Dan plunked a pair of Dynaco A25s on the console bridge (ostensibly to mimic dorm-room acoustics), professionals have been listening, mixing, and balancing in the "nearfield." It allows you to back off the volume, relieving the strain on amps and ears. It also drastically reduces room interaction.

Sometimes I think my hi-fi peers are just rigid in their beliefs. Then I remember my initial resistance to this way of listening... The trick is simple: just close your eyes.

It won't be lost on folks that our system is in direct opposition to Peter Walker's "Rule of Thirds." My opinion is that placing speakers and listener on the null points (the "thirds") of a room is the result of speakers being designed for flat anechoic response. If you tune a speaker for flat response outdoors (or anechoically), it won't account for the room gain in enclosed spaces. Intuition drives the listener to accept the lesser of two evils.

As Martin Colloms noted in his review of the Caldera [August 1997], Audio Physic speakers are designed to work in rooms, and each model is designed for specific room sizes. Audio Physic dealers can assist you with this. They seem pretty honest, too.

So, ultimately, let's not make too big a deal out of this. If you try it, you might like it. We're just trying to be as professional as we can about having fun with our hobby.

Thanks again...

Michael Harvey
for Immedia

Sonic Frontiers Transport 3 & Processor 3

Editor:

Once again, we would like to thank not only Shannon Dickson but John Atkinson and *Stereophile* for allowing us to submit our top-of-the-line digital products, the Transport 3 and Processor 3, for review. To say we were pleased with your findings would be a gross understatement. It is indeed gratifying to get third-party confirmation on what we, too, felt was a product combination that set a new standard for the playback of digital audio media. Our goal was to raise the state-of-the-art bar... and your findings confirm that we have indeed been successful in achieving our goal.

Our goals were simple but lofty:



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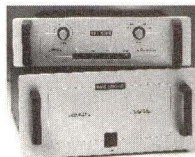
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On the issue of future compatibility with new digital formats, all we can say is that every effort was made to make each as modular and updateable as possible. With the Processor 3 in particular, we are very confident that all contingencies were taken into consideration to make future updating simple and cost-effective, and—as Shannon points out—even if the direction these new formats take is slightly off course from what we have anticipated, it is highly probable that we can adapt to these changes within this platform. Moreover, the use of the PS-E digital interface ensures a “true” 24-bit/96kHz-capable data path.

Finally, while the price of these “3 Series” products is high compared to our previous digital source components, one must remember that, in comparison to other “Class A reference product” contenders, we remain a relative bargain—something we take great pride in. As well, our digital product-development intentions will be to deliver as much of this technology and performance to lower price points, in additional product platforms, as time and resources permit.

Once again, we would like to thank *Stereophile* for this opportunity. We are greatly looking forward to your comments on our other 3 Series products (our Line 3 preamplifier and Power 3 power amplifiers), which push the technical- and sonic-performance envelope in the other amplification-product categories in much the same manner that our digital products have.

Chris Johnson
President, Sonic Frontiers
johnson@sonicfrontiers.com

Chris Jensen
VP, Sales & Marketing, Sonic Frontiers
cjensen@sonicfrontiers.com

Cary CAD-572-SE amplifier

Editor:

Wow! What a review! I am grateful, and, as we say in North Carolina... “Mr. Colloms, I am beholden to you.”

If I may, I would like to bring *Stereophile* readers up to speed on how the Svetlana SV-572-3 tube was developed. The president of Svetlana Electronic Devices, Mr. George Badger, and I have had a business friendship since 1974. We both are avid amateur radio operators and enjoy vacuum-tube audio. During his years as executive vice president with Varian-Eimac Corporation, George was on the front line of high-powered vacuum-tube development for radio-frequency amplifiers. After a few

years in retirement, George was invited to take over the presidential position at Svetlana. Well, this was like the good old days of the '70s. I used to purchase RF transmitting tubes at the rate of \$15,000 to \$20,000 a week from George at Eimac, for RF amplifiers I designed and manufactured for a multitude of different radio-frequency applications.

During the summer of 1995, George and I were discussing the merits of single-ended zero-feedback triode amplifiers. During this discussion we started talking about the good old transmitting triode developed by RCA: the “Grandfather of the Zero-Bias Tube Revolution,” the 811-A 65W triode. It occurred to us that, with some modification, this tube could be reconfigured to use as an audio triode tube. George mentioned that he was ready to leave on a trip to the Svetlana factory in St. Petersburg, Russia. He assured me that he would discuss this with the Svetlana design engineers.

Not only did George have discussions, but two weeks later I was testing a pair of Svetlana 811-3 vacuum tubes. I was amazed how fast the Russian designers turned this tube around. In simplistic terms, the changes were implemented by removing the external top-plate cap connection and routing the anode lead to pin 2 on the base. The grid wires were reduced to the point that the μ of the new tube would be 3.5. Other technical changes were made in compliance with vacuum-tube design and manufacturing processes. The result is an inexpensive, direct-heated thoriated tungsten filament triode suited for single-ended audio.

George Badger is never one to leave well enough alone. Within a few months we had a more powerful 125W-plate-dissipation SV-572-3. For George, the “power-crazed” tube maven, this was a natural progression. After all, Cetron, the same people who make the 300B, also made a high-power version of the 811-A transmitting tube. The tube was...yes, you guessed it...a 572-A transmitting triode with over twice the power of an RCA 811-A.

Well, I guess I have used my allotted space in this issue of *Stereophile*. Thank you once again for the opportunity to voice my thoughts. I'll look forward to the next review of a Cary Audio hi-fi product.

Dennis J. Had
President, Cary Audio Design

Lyra Parnassus D.C.t

Editor:

It is an honor to have our top-of-the-line Lyra Parnassus D.C.t moving-coil phono cartridge reviewed alongside the excellent Koetsu Urushi. Mr. Yoshiaki Sugano (the father of Fumihiko Sugano) is, despite reports of his demise, alive and well at his home in Chiba Prefecture, Japan. He was the person who gave me not only the right

spirit, but also the necessary introductions to enter the field of moving-coil cartridge development and manufacturing. I first visited him when I was a journalist for the Danish magazine *High Fidelity* more than 15 years ago and wrote a synopsis of his life story—a fascinating experience indeed. During numerous visits to his home, we developed a warm friendship.

What Sugano taught me above all other things was to strive for excellence and look for new technologies and materials. Despite the acceptance of digital audio, we feel compelled to continue our efforts to further develop analog audio technology. With the advanced technologies and sophisticated materials available today, it has become possible to make better sound now than we could when the LP was at its peak, from the late '50s through the '70s. And this is not only because of cartridge development, but also because of the emergence of superior tonearms, turntables, and phono amplifiers. So, before commenting on the Lyra Parnassus D.C.t, I would first like to express heartfelt thanks to Mr. Sugano, who gave me the insight, understanding, and support to get involved in moving-coil cartridge manufacturing.

Excellent phono cartridges like those in Michael Fremer's illuminating review are, like personalities, with different traits and attributes. And like personalities, some people are attracted to the sound of one system over another. But as MF experienced, without carefully considering ancillary equipment, the sound of a cartridge can be changed; under some conditions, what could ultimately become your favorite may not leave a favorable impression.

Designer Jonathan Carr and artisan-craftsman Yoshinori Mishima, the main people responsible for the D.C.t, have done their utmost to design and manufacture the ultimate MC cartridge on earth. We invite you to listen to the Lyra Parnassus D.C.t, which we present as the best cartridge possible, without limitations in manufacturing technique, craftsmanship, materials, or cost. It is a great pleasure to become the favorite of one of the most experienced analog reviewers writing today.

A few technical notes: Mishima (the builder) has revised a few specifications suggested in earlier manuals. These are the current specs:

Tracking force: 1.6–1.75gm.

Impedance load matching to direct pre-amplification (MC-capable RIAA phono amplification stage or headamp followed by MM-capable phono amplification stage): from 100 ohms to 47k ohms.

With MC step-up transformers (like the Lyra Arion), impedances should match within close limits. 2–6 ohms input impedance is correct for cartridges with 2–6 ohms internal impedance, like all Lyra models. Besides, the transformer output must always be hooked up to an RIAA

phono stage with an input impedance equal to the one that the transformer has been designed for, normally 47k ohms.

Thank you for the positive review of our product, and the opportunity to comment as the manufacturer through this column.

Stig I. Bjorge
CEO, Scan-Tech Co., Tokyo, Japan

Koetsu Urushi

Editor:

Like two lovers who meet for the first time, Mr. Fremer will never forget his first encounter with the Koetsu, a true legend in high-end audio. Any music lover who has owned a Koetsu, especially classical and jazz listeners, know of its special qualities, unequaled by any other design. The reintroduction of the Koetsu to the US, the largest market in the world for quality analog, has this classic design back with better spit and polish.

While high-end analog has done without the Koetsu for the past five years, and with the elder Sugano increasing in age in the late '80s, production and sales were confined to Japan. Koetsus sold during this period were gray-marketed and had no warranty or service (retip) support.

Now that Fumihiko Sugano has taken over assembling and tuning each cartridge, there is a steady supply of new cartridges. Koetsu appointed Audio by Meyer as US importer, and enlisted analog specialists Musical Surroundings to distribute the Koetsu to their dealer network. This new production again utilizes all the Japanese craftspeople who supply the proprietary parts. Both Fumihiko and his associates can take advantage of today's technology to enhance their workmanship.

For owners of older Koetsu cartridges, retipping and refurbishing of older models is now available. Cartridges are sent back to Japan, where Fumihiko replaces every part except the magnet and rosewood or onyx cartridge body. These rebuilds take full advantage of the new parts, having the completely new moving-coil generator and cantilever/stylus. Turnaround time is typically four to six weeks.

Today's Urushi has a special Japanese tree-sap lacquer coating over a rosewood body. This differs from the Urushi produced in the 1980s, which was lacquer-coated aluminum. The Urushi lacquer ages very slowly, hardening to provide increased resonance control. Thus, the Urushi is one cartridge that improves with age. The Urushi lacquer is done in both black and red, respectively the colors reserved for men's and women's chopsticks, and which is a symbol of success.

Regarding cartridge loading, we recommend a range from 10 times the Urushi's internal resistance (5 ohms x 10 = 50 ohms) up to 100k ohms. When listening for loading effects, begin with larger changes (100, 1000, 10k, 47k), noting

the various "tradeoffs" in focus, bass definition, and high-frequency openness. Once you have narrowed the range—say, for instance, you liked both 1k and 10k—try increments in between, such as 2k or 5k. Many phono preamps offer convenient DIP switches or jumpers to facilitate your listening tests.

Subjectively speaking, MF speaks of complementary colorations between cartridges and systems, making broad generalizations. Isn't colder and drier the opposite of warmer and wetter? If a cartridge or amp/speaker combination is bright and thin (you know, more bow than body), how or why do we compensate? If a warm system or cartridge sounds more natural (woodier wood), are they inherently less flawed? Do we add a flavor (let's say mint) to color the sound? I have often wondered if complementary colorations are better than going with a system's strength. The review mentions that different cables "tamp" down the other cartridge's top end, making it sound more like the Koetsu, but not the Koetsu's "subtly lush lower midrange." Out of curiosity, I looked up tamp in Webster's: "to pack down tightly by a succession of blows or taps." I guess that is the part of music being that is a series of impulses.

And let's not forget the recordings. More suffer from brightness and thinness than dullness. Of course, the true analog fanatic constantly roots around for the best pressing (*sic* Bowie) or hidden gem like a truffle-hunting hound; but when it comes to listening to music, I will opt for slight humidity over laser-boring coolness.

In closing, we appreciate *Stereophile's* commitment to high-end analog, and Mr. Fremer's wonderful review of our Koetsu Urushi cartridge.

Ronnie Caplan
Audio by Meyer

Sound Organisation stands

Editor:

Thanks for the straightforward review, Wes Phillips. Sound Organisation was indeed the originator of the "what you put it on does matter" idea, and that tradition continues with the new Z 500 range of equipment stands.

No mystique, just solid engineering and, as you said, "a bargain."

Steve Daniels & Mark Ashworth
The Sound Organisation

Musical Surroundings, Benz-Micro, Lukaschek, & cartridge pricing

Editor:

Having just read Michael Fremer's "Analog Corner" column from the August issue, both Albert Lukaschek, owner of Lukaschek Hi-Fi Elektronik, and myself wish to clarify statements made in regard to our products. This is the third time in the past few years that

Stereophile has discussed Benz-Micro products in articles or reviews and has failed to get the facts straight. We faxed a letter on Albert Lukaschek's behalf regarding the earlier errors this past February, but the corrections were not noted, nor was his letter published. Below are excerpts from that letter.

Albert Lukaschek: "I have just read your Equipment Report on the Wilson Benesch Analog cartridge by the very entertaining Mr. Jonathan Scull. Please note [that] the generators we supply Craig Milnes for his Hybrid and Matrix cartridges are based on our cross-coil (X) formers, not the iron square plate of the Benz MC Reference, which was well reviewed by Mr. Dick Olsher many years ago and awarded Class A in your 'Recommended Components.'

"Your very knowledgeable analog correspondent, Mr. Michael Fremer, discussed former (core) designs in his equipment report of April 1996, mentioning that the Benz line uses the cross-coil, not the square plate. In fact, we utilize both designs in our various models. It was mentioned that the cross-coil has less core material, thus the cartridge has lower electrical output. Voltage output of a moving-coil cartridge is, in fact, a result of many factors, including a number of coil windings, magnet material, pole-piece design, cantilever length (coil movement or displacement), etc.

"I recommended cross-coil design for cartridges to best match a low-mass carbon-fiber tonearm such as the Wilson Benesch because this style of coil provides a higher compliance than the square plate. These cross-coil formers allow us to supply Wilson-Benesch with both low- and high-output versions. It is essentially the coil design used in the Benz Micro Glider (two output levels) and in the three output levels of the Benz LO.4, MO.9, and H2O wood-body models."

Regarding the "Analog Corner" article on cartridge retipping [May 1998], we would like to note the following corrections and comments. We are taken aback not only in that basic facts were wrong, but that we were never contacted to present our perspective, while Mr. Fremer printed our competitor's perspective on what he describes as our "liberal retip or trade-in policies."

First, the name of our product line is Benz-Micro, not Micro-Benz; the retail price of the Benz MC Reference is \$2500; and the cost to retip the Glider at the Swiss factory is \$400 (as *Stereophile* has correctly printed in their "Recommended Components" section).

Cartridge "retipping" is not a misnomer; it has various meanings, depending on the original design and manufacturer of the cartridge. Musical Surroundings distributes three cartridge lines: Benz-Micro, Transfiguration, and Koetsu. Each company has different policies and

pricing that are determined by whether these companies have designed cartridges that lend themselves to rebuilding, whether the company produces the individual parts or parts assemblies in-house, and whether the labor of rebuilding is done in-house.

Lukaschek Hi-Fi Elektronik in Neuhausen, Switzerland, designers and manufacturers of Benz-Micro cartridges, is possibly the most comprehensive cartridge supplier in the world. Almost every aspect of cartridge design, manufacture, and assembly is done in-house, including coil-winding, manufacture of boron cantilevers, bonding of cantilever/stylus, and final assembly, calibration, and testing. Due to these extensive capabilities, combined with the Swiss ethic of not wasting or making obsolete, Benz cartridges were designed from the start to be affordably rebuilt.

When a Benz cartridge is sent to Switzerland for "retipping," it is first inspected and tested, then disassembled. The cartridge is rebuilt using a new stylus/cantilever assembly, and the suspension is rebuilt as necessary. Finally, the cartridge is retensioned and tuned, tested with its individual graph, and returned with a full one-year warranty. If electrical (read: coil) problems are encountered, the generator may be rewound or replaced.

The downside of this retipping method

is that the cartridge owner can wait typically 6-8 weeks for the entire process to occur. As our sales constantly grow, especially of the Glider, we have instituted generous trade-up programs for Glider owners to exchange their old Glider for a wood-body Benz. This upgrade system accomplishes many positive things, such as allowing the end user to affordably upgrade their system, not overburdening the precision production staff at Benz (the same technicians who build, rebuild), and allowing Musical Surroundings to compile a stock of retipped cartridges, allowing us to exchange another retip for yours, thus circumventing the 6-8-week turnaround.

This brings us to the subject of trade-ins, upon which we would like to provide the Benz perspective. We were the first high-end cartridge manufacturer to provide trade-ins of both Benz and other-brand cartridges toward Benz models. Lukaschek Hi-Fi Elektronik can rebuild most cartridge brands in the marketplace, other than those with plastic or potted generators (*ie*, Grado). That means, when you trade a quality older cartridge for a new Benz model, the Swiss factory can retip that traded-in cartridge and it can be resold as such. To date, we have retipped many traded-in Benz cartridges and other models such as Koetsu, Transfiguration, Kiseki, Audio Note, van den Hul, Linn,

and such Scan-Tech-supplied models as Lyra, Spectral, Linn Arkiv, and AudioQuest 7000. These other-brand retips can then be resold at \$750, or offered as cost-effective replacements for accidentally damaged cartridges. The cost of rebuilding these other-brand cartridges is generally higher than a Benz-model retip because of the design peculiarities of each brand. Often, we do not choose to retip older models from other brands simply because the reinvestment in that older model would not perform up to the standards set by the Benz Glider. Thus we do not build into our product pricing the trade-in cost; we build and rebuild cartridges.

Regarding "special" or "unique" or "design innovations" in one particular cartridge brand *vs* another, this is best left to the spin doctors. The Benz Ruby 2 uses a special ruby square plate for its coils, the Koetsu has a unique platinum magnet, and the Transfiguration Temper's design innovation is that its coil is mounted directly inside a ring magnet.

The goal of Musical Surroundings from its outset has been to help demystify the world of high-end analog so we can all continue to enjoy music reproduced from phonograph records. I hope this letter has assisted in attaining that goal.

Garth B. Leerer

President, Musical Surroundings

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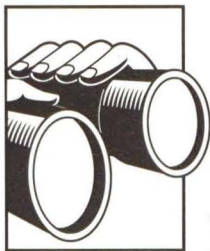
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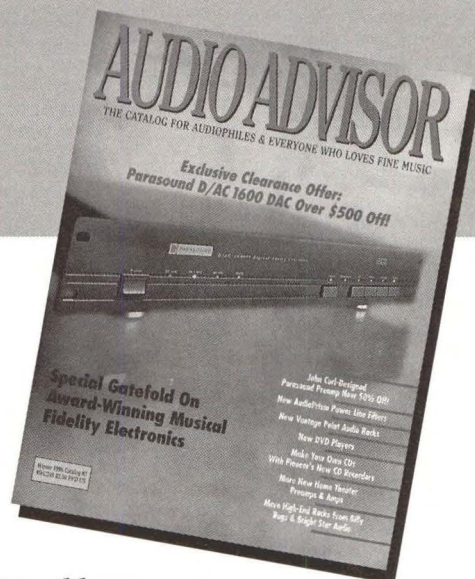
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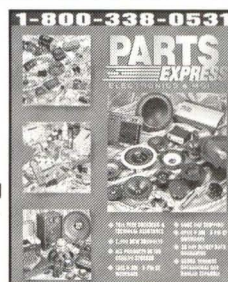
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The Final Word

Larry Archibald

"Hoist on his own petard"—how appropriate, at this time in our national life. But what about hoist on someone else's petard? That's what it seems some of our readers are doing to us in this month's "Letters" column.

Peter D'Castro, for instance, implies that our continuing to publish negative letters in *Stereophile* is a sneaky way of making the transition to "middle-of-the-road, pedestrian" reviews—all connected to our recent acquisition by Petersen Publishing, and evidenced by the apparently lowbrow reviews we've been publishing lately.

I don't get it. Are those negative letters supposed to be throwing our readers off track, somehow making them unable to notice pedestrian reviews? And just what pedestrian reviews are we talking about? Jonathan Scull's review of the superb Boulder 2050 monoblock amplifier? Michael Fremer's confrontation with the Audio Physic Rhea subwoofer or the Ayre Acoustics K-3 preamplifier?

Then, Lester Rich wants *more* negative reviews, putting the current plethora of praise emanating from our pages in the same category as *Stereo Review's* product commentary. And Kenneth Vance questions whether the Polk RT5 loudspeaker can actually sound as good as we've said it does, apparently because it's sold through Circuit City—though, of course, he hadn't heard it for himself.

I'm a pretty harsh self-critic, but I can't agree with any of these propositions. There's never been a time when our reviewing staff has been as rich in qualified listeners and writers as it now is. And John Atkinson is always looking for more good'uns, which gives him the opportunity to prune away the weakest. Can we improve? I certainly hope so—otherwise, why go to work?—but our reviews are not tending toward the pedestrian.

What about the effect of Petersen's ownership, something that has been discussed in the pages of some of the other audio magazines? I polled John, Wes Phillips, and Tom Norton to add up all the mentions of review focus, strategy, and content that they've received from folks at Petersen. The total: zero. No mentions. No requests. No backing off. No muting of criticism. It may be a terrible failing on our part, but we are audiophiles and the guys and gals at Petersen aren't. One hundred percent of our editorial direction comes from Santa Fe, not New York (where our executive publisher is based)

or Los Angeles (where most of the rest of Petersen is based).

Petersen Publishing is interested in *Stereophile* and *Stereophile Guide to Home Theater* maintaining leading positions in their respective industries, particularly with respect to satisfying our readers. They also want us to maintain or improve our level of profitability, on the basis of which they bought us. As far as I can tell after three months, that's the extent of Petersen's influence on *Stereophile's* editorial policy.

The high-end audio industry is characterized by a surfeit of excellent products.

The "too many positive reviews" comments have come our way a lot recently. I think it's important to repeat: *Stereophile's* reviewers are instructed—and required—to describe a product's performance in their system regardless of any outside factors. Whether or not the manufacturer is a friend. Whether or not the manufacturer advertises in *Stereophile*. Whether or not the reviewer has heard good things about the product in advance. Whether the reviewer's last six reviews have been positive or negative.

A majority of our reviews *are* positive, for two reasons. First, and most important, we cover an industry in which most of the best manufacturers have been making really good products for a long time. The products these companies made five or ten years ago still sound excellent. What exactly might have led them to produce something inferior for their latest offering? In fact, nothing. These companies get better and better at making great equipment. We could get ludicrously picky and carp away at imagined faults (many manufacturers already think we do), but that would disguise an important truth: the high-end audio industry is characterized by a surfeit of excellent products. *Stereophile* tries to review the best of the

best, and that necessarily means a preponderance of positive reviews.

The other factor affecting the ratio of positive to negative reviews is our product-screening process. *Stereophile's* 150 product reviews per year may not cover even 10% of all new products introduced. When we know in advance that a product is bad, we don't review it. We want you to be excited by what you read in these pages, not depressed. This has always been our policy, but we've gotten better at it in recent years.

This does require discipline, or our reviews would lose all authority. We are rigidly committed to reviewing everything we receive. If we get it, you'll read about it. The only exceptions are when a product, or its distribution in this country, is discontinued during the review period. We're also rigid about our requirement that the products we review be available—why read about something you can't possibly buy? Otherwise, we *will* publish a review, regardless of whether it's positive or negative, and regardless of any threats from manufacturers (which, thankfully, are few and far between).

Things are changing at *Stereophile*, but according to the same editorial lights that have guided us for the last 12 years. You may have noticed more reviews of affordable equipment over the last year. This probably leads to the "pedestrian" suspicions voiced in "Letters," but it stems from our equipment reviewers. At the 1998 *Stereophile* Writers' Conference we discovered that, to a person, our writers think that *Stereophile* has a crucial role in finding the less-expensive-but-still-excellent equipment that will allow newcomers to find their way into the hobby. We still have far to go.

This defense will fail if you, the ultimate judge and jury, feel we fall short. It *is* our job to excite you enough to spend four hours a month with us—and I hope we're doing it. Wes's Polk review was right on—a mainstream manufacturer distributing through the *most* mainstream retailer with a low-price product that sounds great. That's news—it's the way our market has changed, and more power to it.

I also think J-10's Boulder review was right on. Sometimes it seems as if Jonathan fancies stuff just because it's insanely expensive, but I'm listening to the Boulder amps right now, and they sound terrific—the best yet on my Thiel CS5.1s. Maybe even worth their \$59,000 price tag—to the right buyer. That's news, too.

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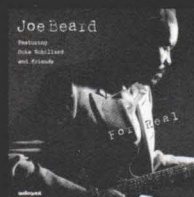
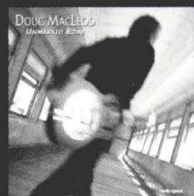


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